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## “Publications and Presentations”

### • I. Theses

- [1] **Jakirlić, S.** (June, 2004): DNS-based scrutiny of RANS-approaches and their potential for predicting turbulent flows. *Habilitation Thesis*, Darmstadt University of Technology
- [2] **Jakirlić, S.** (March, 1997): Reynolds-Spannungs-Modellierung komplexer turbulenter Strömungen. *Ph.D. Thesis*, Friedrich-Alexander Universität Erlangen-Nürnberg (Herbert Utz Verlag Wissenschaft, München, ISBN 3-89675-215-4)  
[http://books.google.de/books/about/Reynolds\\_Spannungs\\_Modellierung\\_komplexe.html?id=v-aBu7cKv4UC&redir\\_esc=y](http://books.google.de/books/about/Reynolds_Spannungs_Modellierung_komplexe.html?id=v-aBu7cKv4UC&redir_esc=y)
- [3] **Jakirlić, S.** (July, 1991): Contribution towards development of a differential Reynolds-stress model of turbulence by introduction of viscosity and wall-proximity effects (*in Bosnian*). *M.Sc. Thesis*, Department of Mechanical Engineering, University of Sarajevo, Bosnia and Herzegovina

### • II. Edited Books and Special Issues of Scientific Journals and Bulletins

- [1] Lavoie, P. Morrison, J.F. (Guest editors) and **Jakirlić, S.** (Editor) (2017): Special Issue of *International Journal of Heat and Fluid Flow* (Elsevier) devoted to the *Symposium on Experiments and Simulations in Fluid Dynamics Research (FDR'16)*, Queen's University, Kingston, Ontario, Canada, August 19-20, 2016, Vol. **67B**, pp. 1-2 (<http://dx.doi.org/10.1016/j.ijheatfluidflow.2017.10.002>)
- [2] Hanjalić, K. (Guest Editor), **Jakirlić, S.**, Pollard, A. and Suga, K. (Editors) (2017): Special Issue of *International Journal of Heat and Fluid Flow* (Elsevier) devoted to the *8<sup>th</sup> Symposium on “Turbulence, Heat and Mass Transfer”*, Sarajevo, Bosnia and Herzegovina, September 18-23, 2015, Vol. **63**, pp. 44-45 (<http://dx.doi.org/10.1016/j.ijheatfluidflow.2017.02.003>)
- [3] Pollard, A., **Jakirlić, S.** (Editors), Fuchs, L., Segalini, A. and Vad, J. (Guest editors), (2016): Special Issue of *International Journal of Heat and Fluid Flow* (Elsevier) devoted to the *5<sup>th</sup> Int. Symposium Jets, Wakes and Separated Flows, (ICJWSF2015)*, Stockholm, Sweden, June 15-18, 2015 and Conference on Modelling Fluid Flow (CMFF'15), Buda-

- pest, Hungary, September 1-4, 2015, Vol. **62**, p. A1 (<http://dx.doi.org/10.1016/j.ijheatfluidflow.2016.12.003>)
- [4] Marusic, I., Tavoularis, S. (Guest editors), **Jakirlić, S.**, Klewicki, J., Pollard, A. and Suga, K. (Editors) (2016): Special Issue of *International Journal of Heat and Fluid Flow* (Elsevier) devoted to the 9<sup>th</sup> Symposium on “Turbulence and Shear Flow Phenomena”, Melbourne, Australia, July 28-31, Vol. **61**, p. 1 (<http://dx.doi.org/10.1016/j.ijheatfluidflow.2016.09.010>)
- [5] **Jakirlić, S.** (Editor) (2015): Special Issue of *International Journal of Heat and Fluid Flow* (Elsevier) devoted to the 10<sup>th</sup> Symposium on “Engineering Turbulence Modelling and Measurements”, Marbella, Spain, September 17-19, 2014, Vol. **55**, pp. 1 (<http://dx.doi.org/10.1016/j.ijheatfluidflow.2015.10.001>)
- [6] Gatski, T. and **Jakirlić, S.** (Editors) (2015): Special Issue of *International Journal of Heat and Fluid Flow* (Elsevier) dedicated to the 75<sup>th</sup> birthday of Brian E. Launder and Kemo Hanjalic, Vol. **51** (<http://dx.doi.org/10.1016/j.ijheatfluidflow.2014.11.001>), pp. 1-2
- [7] Gatski, T., **Jakirlić, S.** (Editors), Geurts, B. and Tomboulides, A. (Guest editors) (2013): Special Issue of *International Journal of Heat and Fluid Flow* (Elsevier) devoted to the 9<sup>th</sup> Symposium on “Engineering Turbulence Modelling and Measurements”, Thessaloniki, Greece, June 6-6, 2012, Vol. **41**, pp. 1 (<http://dx.doi.org/10.1016/j.ijheatfluidflow.2013.05.005>)
- [8] Hanjalić, K., Nagano, Y., Borello, D. and **Jakirlić, S.** (Editors) (2012): **Turbulence, Heat and Mass Transfer 7**, (Contributions to the 7<sup>th</sup> Int. Symp. on Turbulence, Heat and Mass Transfer, Palermo, Italy, September 24-27, 2012), *Begell House, Inc.*, ISBN 978-1-56700-301-7
- [9] **Jakirlić, S.**, Launder, B., Schmidt, F. (Editors) and S. Tavoularis (Guest editor) (2012): Special Issue of *International Journal of Heat and Fluid Flow* (Elsevier) devoted to the 7<sup>th</sup> Symposium on “Turbulence and Shear Flow Phenomena”, Ottawa, Canada, July 28-31, Vol. **33**, No. **3**, p. 1 (<http://dx.doi.org/10.1016/j.ijheatfluidflow.2012.05.007>)
- [10] **Jakirlić, S.** and Gatski, T. (Editors) (2011): Special Issue of *International Journal of Heat and Fluid Flow* (Elsevier) devoted to the 8<sup>th</sup> Symposium on “Engineering Turbulence Modelling and Measurements”, Marseille, France, June 9-11, 2010, Vol. **32**, No. **3**, pp. 491 (<http://dx.doi.org/10.1016/j.ijheatfluidflow.2011.02.014>)
- [11] Hanjalić, K. (Editor), Nagano, Y. and **Jakirlić, S.** (Guest editors) (2011): Special Issue of *Journal Flow, Turbulence and Combustion* (Springer) devoted to the 6<sup>th</sup> Symposium on “Turbulence, Heat and Mass Transfer”, Rome, Italy, September 14-18, Vol. **86**, No. **3-4**, pp. 311-312 (<http://dx.doi.org/10.1007/s10494-011-9344-1>)
- [12] Hanjalić, K., Nagano, Y. and **Jakirlić, S.** (Editors) (2009): **Turbulence, Heat and Mass Transfer 6**, (Contributions to the 6<sup>th</sup> Int. Symp. on Turbulence, Heat and Mass Transfer, Rome, Italy, September 14-18, 2009), *Begell House, Inc.*, ISBN 978-1-56700-262-1
- [13] Hanjalić, K. (Editor), Nagano, Y. and **Jakirlić, S.** (Guest editors) (2008): Special Issue of *Journal Flow, Turbulence and Combustion* (Springer) devoted to the 5<sup>th</sup> Symposium on “Turbulence, Heat and Mass Transfer”, Dubrovnik, Croatia, September 25-29, Vol. **81**, No. **1-2**, pp. 1-2 (<https://doi.org/10.1007/s10494-008-9168-9>)
- [14] Launder, B.E., Schmidt, F.W. (Editors), Hanjalić, K., **Jakirlić, S.** and Nagano, Y. (Guest editors) (2007): Special Issue of *International Journal of Heat and Fluid Flow* (Elsevier) devoted to the 5<sup>th</sup> Symposium on “Turbulence, Heat and Mass Transfer”, Dubrovnik, Croatia, September 25-29, Vol. **28**, No. **6**, p. 1191 (<http://dx.doi.org/10.1016/j.ijheatfluidflow.2007.08.002>)
- [15] Tropea, C., **Jakirlić, S.**, Heinemann, H.-J., Henke, R. and Hönlinger; H. (Editors) (2007): **Notes on Numerical Fluid Mechanics and Multidisciplinary Design**, Vol. **96**,

(Contributions to the 15. DGLR-Fach-Symposium der AG STAB, Technische Universität, Darmstadt, November 29 – December 01, 2006), Springer, Berlin Heidelberg New York, ISBN 978-3-540-74458-0

- [16] **Jakirlić, S.** (Coordinator/Editor) (March, 2007): Wall Modelling in LES – Method Development and Application. *ERCRAFTAC Bulletin*, No. 72
- [17] Hanjalić, K., Nagano, Y. and **Jakirlić, S.** (Editors) (2006): **Turbulence, Heat and Mass Transfer 5**, (Contributions to the 5<sup>th</sup> Int. Symp. on Turbulence, Heat and Mass Transfer, Dubrovnik, Croatia, September 25-29, 2006), Begell House, Inc., ISBN 1-56700-229-3

### • **III. In Scientific Journals (referred in Science Citation Index)**

- [1] Renaud, A., Ding, C.-P., **Jakirlic, S.**, Dreizler, A. and Böhm, B. (2018): Experimental characterization of the velocity boundary layer in a motored IC engine. *International Journal of Heat and Fluid Flow*, Vol. 71, pp. 366-377 (DOI: <https://doi.org/10.1016/j.ijheatfluidflow.2018.04.014>)
- [2] Krumbein, B., Termini, V., **Jakirlić, S.** and Tropea, C. (2018): Flow and heat transfer in cross-stream type T-junctions: A computational study. *International Journal of Heat and Fluid Flow*, Vol. 71, pp. 179-188 (DOI: <https://doi.org/10.1016/j.ijheatfluidflow.2018.03.013>)
- [3] Berberovic, E., Schreimb, M., Tukovic, Z., **Jakirlic, S.** and C. Tropea (2018): Computational modeling of freezing of supercooled water using phase-field front propagation with immersed points. *International Journal of Multiphase Flow*, Vol. 99, pp. 329-346 (DOI: <https://doi.org/10.1016/j.ijmultiphaseflow.2017.11.005>)
- [4] Jainski, C., Reißmann, M., Böhm, B., **Jakirlic, S.** and Dreizler, A. (2018): Turbulent boundary layer flows during flame-wall interaction analyzed by laser diagnostics. *Flow, Turbulence and Combustion*, Vol. 100, Issue 1, pp. 177-196 (DOI: <http://dx.doi.org/10.1007/s10494-017-9836-8>)
- [5] Krumbein, B., Fooroghi, P., **Jakirlic, S.**, Magagnato, F. and Frohnapfel, B. (2017): VLES modeling of flow over walls with variably-shaped roughness by reference to complementary DNS. *Flow, Turbulence and Combustion*, Vol. 99, Issue 3-4, pp. 685-703, (DOI: <http://dx.doi.org/10.1007/s10494-017-9867-1>)
- [6] Krumbein, B., **Jakirlic, S.** and Tropea, C. (2017): VLES study of a jet impinging onto a heated wall. *International Journal of Heat and Fluid Flow*, Vol. 68, pp. 290-297 (DOI: <https://doi.org/10.1016/j.ijheatfluidflow.2017.09.020>)
- [7] Maduta, R., Ullrich, M. and **Jakirlić, S.** (2017): Reynolds stress modelling of wake interference of two cylinders in tandem: conventional vs. eddy-resolving closure. *International Journal of Heat and Fluid Flow*, Vol. 67B, pp. 139-148 (DOI: <https://doi.org/10.1016/j.ijheatfluidflow.2017.07.012>)
- [8] Klingebiel, M., Ehrlich, A., Finger, F., Rösenthaller, T., **Jakirlić, S.**, Voigt, M., Müller, S., Maser, R., Wendisch, M., Hoor, P., Spichtinger, P., and Borrmann, S. (2017): A tandem approach for collocated measurements of microphysical and radiative cirrus properties, *Atmospheric Measurement Technique*, Vol. 10, pp. 3485-3498, (DOI: <https://doi.org/10.5194/amt-10-3485-2017>)
- [9] Forooghi, P., Stroh, A., Magagnato, F., **Jakirlic, S.** and Frohnapfel, B. (2017): Towards a Universal Roughness Correlation. *ASME Journal of Fluids Engineering*, Vol. 139, No. 12, pp. 121201-121201-12 (DOI: <http://dx.doi.org/10.1115/1.4037280>)
- [10] **Jakirlić, S.**, Kutej, L., Unterlechner, P. and Tropea, C. (2017): Critical assessment of some popular scale-resolving turbulence models for vehicle aerodynamics. *SAE International Journal of Passenger Cars – Mechanical Systems* V126-6EJ, 2017; Vol. 10, No.

- 1, pp. 235-250, DOI: <http://dx.doi.org/10.4271/2017-01-1532>, (also as *SAE Technical Paper Series*, Paper No. **2017-01-1532**, pp. 1-16)
- [11] Maduta, R. and **Jakirlić, S.** (2017): Improved RANS computations of flow over the 25°-slant-angle Ahmed body. *SAE International Journal of Passenger Cars – Mechanical Systems*, 2017; Vol. **10**, No. **2**, pp. 649-661, DOI: <http://dx.doi.org/10.4271/2017-01-1523>, (also as *SAE Technical Paper Series*, Paper No. **2017-01-1523**, pp. 1-13)
- [12] Schremb, M., Borchert, S., Berberovic, E., **Jakirlic, S.**, Roisman, I.V. and Tropea, C. (2017): Computational modelling of flow and conjugate heat transfer of a drop impacting onto a cold wall. *Int. Journal of Heat and Mass Transfer*. Vol. **101**, pp. 971-980 (DOI: <http://dx.doi.org/10.1016/j.ijheatmasstransfer.2017.02.073>)
- [13] Maden, I., Maduta, R., Kriegseis, J., **Jakirlic, S.**, Grundmann, S. and Tropea, C. (2016): Modelling the plasma-actuator-related turbulence production in RANS closures by reference to complementary experimental investigations. *Flow, Turbulence and Combustion*, Vol. **97**, Issue **4**, pp. 1047-1069 (DOI: <http://dx.doi.org/10.1007/s10494-016-9779-5>)
- [14] Röhrig, R., **Jakirlić, S.** and Tropea, C. (2016): Large Eddy Simulation of a light gas stratification break-up by an entraining turbulent jet. *Journal of Turbulence*. Vol. **17**, Issue **9**, pp. 878-899 (DOI: <http://dx.doi.org/10.1080/14685248.2016.1192638>)
- [15] **Jakirlić, S.** and Maduta, R. (2016): “Steady” RANS Modeling for Improved Prediction of Wall-Bounded Separation. *AIAA Journal*, Vol. **54**, No **5**, pp. 1802-1808 (DOI: <http://dx.doi.org/10.2514/1.J054399>)
- [16] Maden, I., Maduta, R., Kriegseis, J., **Jakirlic, S.**, Grundmann, S. and Tropea, C. (2015): Plasma-actuated manipulation of secondary flow towards pressure recovery enhancement in a 3D diffuser modelled by an eddy-resolving second-moment closure. *Flow, Turbulence and Combustion*, Vol. **95**, Issue **2-3**, pp. 377-398 (DOI: <http://dx.doi.org/10.1007/s10494-015-9641-1>)
- [17] Röhrig, R., **Jakirlic, S.** and Tropea, C. (2015): Comparative computational study of turbulent flow in a 90° pipe elbow. *International Journal of Heat and Fluid Flow*, Vol. **55**, pp. 120-131 (DOI: <http://dx.doi.org/10.1016/j.ijheatfluidflow.2015.07.011>),
- [18] Criscione, A., Roisman, I.V., **Jakirlic, S.** and Tropea, C. (2015): Towards modeling of initial and final stages of supercooled water freezing. *International Journal of Thermal Sciences*, Vol. **92** (DOI: <http://dx.doi.org/10.1016/j.ijthermalsci.2015.01.021>), pp. 150-161
- [19] **Jakirlić, S.** and Maduta, R. (2015): Extending the bounds of “steady” RANS closures: towards an instability-sensitive Reynolds stress model. *International Journal of Heat and Fluid Flow*, Vol. **51** (DOI: <http://dx.doi.org/10.1016/j.ijheatfluidflow.2014.09.003>), pp. 175-194
- [20] Chang, C.-Y., **Jakirlic, S.**, Dietrich, K., Basara, B. and Tropea, C. (2014): Swirling flow in a tube with variably-shaped outlet orifices: an LES and VLES study. *International Journal of Heat and Fluid Flow*, Vol. **49**, pp. 28-42 (DOI: <http://dx.doi.org/10.1016/j.ijheatfluidflow.2014.05.008>)
- [21] Avdic, A., Kuenne, G., Ketelheun, A., Sadiki, A., **Jakirlic, S.** and Janicka, J. (2013): High Performance Computing of the Darmstadt Stratified Burner by means of Large Eddy Simulation and a joint ATF-FGM approach. *Computing and Visualization in Science*, Vol. **16**, pp. 77-88, DOI: <http://dx.doi.org/10.1007/s00791-014-0225-8>
- [22] **Jakirlić, S.**, Jovanović, J. and Maduta, R. (2013): On near-wall treatment in (U)RANS-based closure models. *Flow, Turbulence and Combustion*, Vol. **91**, No. **4**, pp. 849-866, DOI: <http://dx.doi.org/10.1007/s10494-013-9491-7>
- [23] **Jakirlić, S.** and Hanjalić, K. (2013): A DNS-based re-examination of coefficients in the pressure-strain models in Second-moment Closures. *Fluid Dynamics Research*, Vol. **45**,

No. 5, Article No. 055509, pp. 1-22, DOI: <http://dx.doi.org/10.1088/0169-5983/45/5/055509>

- [24] Criscione, A., Kintea, D., Tukovic, Z., **Jakirlic, S.**, Roisman, I.V. and Tropea, C. (2013): Crystallization of supercooled water: a level-set-based modeling of the dendrite tip velocity. *Int. Journal of Heat and Mass Transfer*, Vol. 66, pp. 830-837, DOI: <http://dx.doi.org/10.1016/j.ijheatmasstransfer.2013.07.079>
- [25] Maden, I., Maduta, R., Kriegseis, J., **Jakirlic, S.**, Schwarz, C., Grundmann, S and Tropea, C. (2013): Experimental and Computational Study of the Flow induced by a Plasma Actuator. *Int. J. Heat and Fluid Flow*, Vol. 41, pp. 80-89, DOI: <http://dx.doi.org/10.1016/j.ijheatfluidflow.2013.02.013>
- [26] Rauschenberger, P., Criscione, A., Eisenschmidt, K., Kintea, D., **Jakirlić, S.**, Tuković, Z., Roisman, I.V., Weigand, B. and Tropea, C. (2013): Comparative assessment of Volume-of-Fluid and Level-Set methods by relevance to dendritic ice growth in supercooled water. *Computers and Fluids*, Vol. 79, pp. 44-52, DOI: <http://dx.doi.org/10.1016/j.compfluid.2013.03.010>
- [27] Berberović, E., Roisman, I.V., **Jakirlić, S.** and Tropea, C. (2011): Inertia dominated flow and heat transfer in liquid drop spreading on a hot substrate. *Int. J. Heat and Fluid Flow*, Vol. 32, No. 4, pp. 785-795, DOI: <http://dx.doi.org/10.1016/j.ijheatfluidflow.2011.05.001>
- [28] **Jakirlić, S.**, Kniesner, B. and Kadavelil, G. (2011): On interface issues in LES/RANS coupling strategies: a method for turbulence forcing. *JSME Journal of Fluid Science and Technology*, Vol. 6, No. 1, pp. 56-72, DOI: <http://dx.doi.org/10.1299/jfst.6.56>
- [29] **Jakirlić, S.**, Kadavelil, G., Kornhaas, M., Schäfer, M., Sternel, D.C. and Tropea, C. (2010): Numerical and Physical Aspects in LES and Hybrid LES/RANS of Turbulent Flow Separation in a 3-D Diffuser. *Int. J. Heat and Fluid Flow*, Vol. 31, No. 5, pp. 820-832, DOI: <http://dx.doi.org/10.1016/j.ijheatfluidflow.2010.05.004>
- [30] **Jakirlić, S.** and Jovanović, J. (2010): On unified boundary conditions for improved prediction of near-wall turbulence. *J. Fluid Mech.*, Vol. 656, pp. 530-539, DOI: <https://doi.org/10.1017/S0022112010002442>
- [31] **Jakirlić, S.**, Kniesner, B., Kadavelil, G., Gnirß, M. and Tropea, C. (2009): Experimental and computational investigations of flow and mixing in a single-annular combustor configuration. *Flow, Turbulence and Combustion*, Vol. 83, No. 3, pp. 425-448, DOI: <https://doi.org/10.1007/s10494-009-9229-8>
- [32] Berberović, E., van Hinsberg, N.P., **Jakirlić, S.**, Roismann, I.V. and Tropea, C. (2009): Drop impact onto a liquid layer of finite thickness: dynamics of the cavity evolution. *Physical Review E*, Vol. 79, No. 3, DOI: <https://doi.org/10.1103/PhysRevE.79.036306>
- [33] Groll, R., **Jakirlić, S.** and Tropea, C. (2009): Comparative study of Euler/Euler and Euler/Lagrange approaches simulating evaporation in a turbulent gas-liquid flow. *Int. J. Numerical Methods in Fluids* Vol. 59, No. 8, pp. 873-906, DOI: <https://doi.org/10.1002/flid.1844>
- [34] Omori, T., **Jakirlić, S.**, Tropea, C. and Obi, S. (2008): Shearless and sheared flow past a circular cylinder: comparative analysis by means of LES. *Int. J. Heat and Fluid Flow*, Vol. 29, No. 3, pp. 703-720, <https://doi.org/10.1016/j.ijheatfluidflow.2008.03.012>
- [35] **Jakirlić, S.**, Eisfeld, B., Jester-Zürker, R. and Kroll, N. (2007): Near-wall, Reynolds-stress model calculations of transonic flow configurations relevant to aircraft aerodynamics. *Int. J. Heat and Fluid Flow*, Vol. 28, No. 4, pp. 602-615, DOI: <https://doi.org/10.1016/j.ijheatfluidflow.2007.04.001>
- [36] Palm, R., Grundmann, S., Weismüller, M., Šarić, S., **Jakirlić, S.** and Tropea, C. (2006): Experimental characterization and modelling of inflow conditions for a gas turbine swirl combustor. *Int. J. of Heat and Fluid Flow*, Vol. 27, No. 5, pp. 924-936, DOI: <https://doi.org/10.1016/j.ijheatfluidflow.2006.03.016>

- [37] Šarić, S., **Jakirlić, S.**, Djugum, A. and Tropea, C. (2006): Computational analysis of locally forced flow over a wall-mounted hump at high-Re number. *Int. J. of Heat and Fluid Flow*, Vol. **27**, No. **4**, pp. 707-720, DOI: <https://doi.org/10.1016/j.ijheatfluidflow.2006.02.015>
- [38] Jester-Zürker, R., **Jakirlić, S.** and Tropea, C. (2005): Computational modelling of turbulent mixing in confined swirling environment under constant and variable density conditions. *Flow, Turbulence and Combustion*. Vol. **75**, No. **1-4**, pp. 217-244, DOI: <https://doi.org/10.1007/s10494-005-8578-1>
- [39] Šarić, S., **Jakirlić, S.** and Tropea, C. (2005): A periodically perturbed backward-facing step flow by means of LES, DES and T-RANS: an example of flow separation control. *ASME J. of Fluids Engineering*, Vol. **127**, No. **5**, pp. 879-887, <https://doi.org/10.1115/1.2012502>
- [40] Šikalo, S., Wilhelm, H.-D., Roismann, I.V., **Jakirlić, S.** and Tropea, C. (2005): Dynamic Contact Angle of Spreading Droplets: Experiments and Simulations. *Physics of Fluids*, Vol. **17**, No. **6**, Article No. **062103**, pp. 1-13, DOI: <https://doi.org/10.1063/1.1928828>
- [41] **Jakirlić, S.**, Jester-Zürker, R. and Tropea, C. (2004): Joint Effects of Geometry Confinement and Swirling Inflow on Turbulent Mixing in Model Combustors: a Second-Moment Closure Study. *J. on Progress in CFD*, Vol. **4**, No. **3-5**, pp. 198-207, DOI: <https://doi.org/10.1504/PCFD.2004.004088>
- [42] Basara, B. and **Jakirlić, S.** (2003): A new, hybrid turbulence modelling strategy for industrial CFD. *Int. J. Numerical Methods in Fluids*, Vol. **42**, No. **1**, pp. 89-116, DOI: [https://doi.org/10.1002/\\_d.492](https://doi.org/10.1002/_d.492)
- [43] **Jakirlić, S.** and Hanjalić K. (2002): A new approach to modelling near-wall turbulence energy and stress dissipation. *J. Fluid Mech.* Vol. **439**, pp. 139-166, DOI: <https://doi.org/10.1017/S0022112002007905>
- [44] **Jakirlić, S.**, Hanjalić, K. and Tropea C. (2002): Modelling Rotating and Swirling Flows: A Perpetual Challenge. *AIAA Journal*, Vol. **40**, No. **10**, pp 1984-1996, DOI: <https://doi.org/10.2514/2.1560>
- [45] **Jakirlić, S.**, Volkert, J., Pascal, H., Hanjalić, K. and Tropea, C. (2000): DNS, experimental and modelling study of axially compressed in-cylinder swirling flow. *Int. J. of Heat and Fluid Flow*, Vol. **21**, No. **5**, pp. 627-639, DOI: [https://doi.org/10.1016/S0142-727X\(00\)00054-0](https://doi.org/10.1016/S0142-727X(00)00054-0)
- [46] Hanjalić, K., Hadžić, I. and **Jakirlić, S.** (1999): Modelling the turbulent wall flows subjected to strong pressure variations. *ASME J. of Fluids Engineering*, Vol. **121**, No. **1**, pp. 57-64, DOI: <https://doi.org/10.1115/1.2822011>
- [47] Hanjalić, K. and **Jakirlić, S.** (1998): Contribution towards the second-moment closure modelling of separating turbulent flows. *Computers and Fluids*, Vol. **27**, No. **2**, pp. 137-156, DOI: [https://doi.org/10.1016/S0045-7930\(97\)00036-4](https://doi.org/10.1016/S0045-7930(97)00036-4)
- [48] Hanjalić, K., **Jakirlić, S.** and Hadžić, I. (1997): Expanding the limits of “equilibrium” second-moment turbulence closures. *Fluid Dynamics Research*, Vol. **20**, No. **1-6**, pp. 25-41, DOI: [https://doi.org/10.1016/S0169-5983\(96\)00043-3](https://doi.org/10.1016/S0169-5983(96)00043-3)
- [49] Hanjalić, K., **Jakirlić, S.** and Durst, F. (1994): A Computational Study of Joint Effects of Transverse Shear and Streamwise Acceleration on Three-Dimensional Boundary Layers. *Int. J. of Heat and Fluid Flow*, Vol. **15**, No. **4**, pp. 269-282, DOI: [https://doi.org/10.1016/0142-727X\(94\)90012-4](https://doi.org/10.1016/0142-727X(94)90012-4)
- [50] Hanjalić, K. and **Jakirlić, S.** (1993): A Model of Stress Dissipation in Second-Moment Closures. *Applied Scientific Research* (presently *Flow, Turbulence and Combustion*), Vol. **51**, No. **1-2**, pp. 513-518, DOI: <https://doi.org/10.1007/BF01082584>

• ***IV. In Journals, Edited Books, Bulletins and Periodicals***

- [1] Maduta, R. and **Jakirlić, S.** (2018): On the von Karman length scale as a triggering parameter in eddy-resolving simulations of turbulent flows. In “Progress in Hybrid RANS-LES Modelling 6”. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, Vol. **137**, Y. Hoarau, S.-H. Peng, D. Schwaborn and A. Revell (Eds.), pp. 179-193, Springer Verlag (ISBN 978-3-319-70030-4), DOI: [https://doi.org/10.1007/978-3-319-70031-1\\_15](https://doi.org/10.1007/978-3-319-70031-1_15)
- [2] **Jakirlić, S.**, Kutej, L., Basara, B. and Tropea, C. (2018): Scale-resolving simulation of an ‘on-road’ overtaking maneuver involving model vehicles. *SAE Technical Paper Series*, Paper No. **2018-01-0706**, pp. 1-19 (SAE World Congress, April 10-12), DOI: <https://doi.org/10.4271/2018-01-0706>
- [3] **Jakirlić, S.**, Kutej, L., Basara, B. and Tropea, C. (2016): Numerische Fahrzeugaerodynamik am Beispiel von ‚DrivAer‘ Modellkonfigurationen. *Automobiltechnische Zeitschrift – ATZ*, Springer Verlag, Band **118**, Ausgabe **5/2016**, pp. 78-85, DOI: <http://dx.doi.org/10.1007/s35148-016-0012-6> (also as Computational vehicle aerodynamics by reference to ‚DrivAer‘ model configurations. *ATZ Worldwide – <https://www.atz-magazine.com>*, Vol. **118**, Issue **5/2016**, pp. 76-83; DOI: <http://dx.doi.org/10.1007/s38311-016-0008-6>).
- [4] **Jakirlić, S.**, Kutej, L., Hanssmann, D., Basara, B. and Tropea, C. (2016): Eddy-resolving Simulations of the Notchback DrivAer Model: Influence of Underbody Geometry and Wheels Rotation on Aerodynamic Behaviour; *SAE Technical Paper Series*, Paper No. **2016-01-1062**, pp. 1-14 (SAE World Congress, April 12-14), DOI: <http://dx.doi.org/10.4271/2016-01-1602>
- [5] **Jakirlić, S.**, Kutej, L., Hanssmann, D., Basara, B., Schütz, T. and Tropea, C. (2016): Rear-end shape influence on the aerodynamic properties of a realistic car model: a RANS and LES/RANS study. “*New Results in Numerical and Experimental Fluid Mechanics X*”, *Notes on Numerical Fluid Mechanics and Multidisciplinary Design (NNFM)*, Vol. **132**, Dillmann, A., Heller, G., Krämer, E., Wagner, C., Breitsamter, C. (Eds.), pp. 397-407, Springer Verlag (ISBN: 978-3-319-27279-5), DOI: [http://dx.doi.org/10.1007/978-3-319-27279-5\\_35](http://dx.doi.org/10.1007/978-3-319-27279-5_35)
- [6] **Jakirlić, S.** and Maduta, R. (2015): Sensitized RANS modelling of turbulence: resolving turbulence unsteadiness by a (near-wall) Reynolds stress model. *Progress in Wall Turbulence 2: Understanding and Modeling*. Proceedings of the WALLTURB International Workshop held in Lille, France, June 18–20, 2014, M. Stanislas, J. Jimenez and I. Marusic (Eds.), pp. 17-35, Springer Verlag, ERCOFTAC Series Vol. **23**, Springer Verlag (ISBN 978-3-319-20387-4), DOI: [http://dx.doi.org/10.1007/978-3-319-20388-1\\_2](http://dx.doi.org/10.1007/978-3-319-20388-1_2)
- [7] Cecora, R.-D., Radespiel, R. and **Jakirlić, S.** (2015): Modeling of Reynolds-Stress Augmentation in Shear Layers with Strongly Curved Velocity Profiles. In “Differential Reynolds Stress Modeling for Separating Flows in Industrial Aerodynamics”, Springer Tracts in Mechanical Engineering, B. Eisfeld (Editor), pp. 85-101, ISBN: 978-3-319-15638-5 (Print) 978-3-319-15639-2 (Online), DOI: [http://dx.doi.org/10.1007/978-3-319-15639-2\\_5](http://dx.doi.org/10.1007/978-3-319-15639-2_5)
- [8] Criscione, A., **Jakirlić, S.**, Tuković, Ž., Roisman, I. and Tropea, C. (2015): Surface Energy Influence on Supercooled Water Crystallization: a Computational Study. *SAE Technical Paper Series*, Paper No. **2015-01-2115/15ICE-0090**, pp. 1-8, DOI: <http://dx.doi.org/10.4271/2015-01-2115>)
- [9] Chang, C.-Y., **Jakirlić, S.**, Basara, B. and Tropea, C. (2015): Predictive capability assessment of the PANS- $\zeta$ -f model of turbulence. Part I: physical rationale by reference to wall-bounded flows including separation. In “Advances in Hybrid RANS-LES Modelling 5”.

*Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, Vol. **130**, S. Girimaji, W. Haase, S.-H. Peng and D. Schwaborn (Eds.), pp. 371-383, Springer Verlag (ISBN 978-3-319-15140-3), DOI: [http://dx.doi.org/10.1007/978-3-319-15141-0\\_30](http://dx.doi.org/10.1007/978-3-319-15141-0_30)

- [10] Chang, C.-Y., **Jakirlić, S.**, Basara, B. and Tropea, C. (2015): Predictive capability assessment of the PANS- $\zeta$ -f model of turbulence. Part II: application to swirling and tumble/mean-compression flows. In “Advances in Hybrid RANS-LES Modelling 5”. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, Vol. **130**, S. Girimaji, W. Haase, S.-H. Peng and D. Schwaborn (Eds.), pp. 385-398, Springer Verlag (ISBN 978-3-319-15140-3), DOI: [http://dx.doi.org/10.1007/978-3-319-15141-0\\_31](http://dx.doi.org/10.1007/978-3-319-15141-0_31)
- [11] **Jakirlić, S.**, Kutej, L. Basara, B. and Tropea, C. (2014): Computational study of the aerodynamics of a realistic car model by means of RANS and hybrid RANS/LES approaches. *SAE Technical Paper Series*, Paper No. **2014-01-0594**, pp. 1-14 (also in *SAE International Journal of Passenger Cars – Mechanical Systems*, 2014; Vol. 7, No. 2, pp. 559-574, DOI: <http://dx.doi.org/10.4271/2014-01-0594>)
- [12] **Jakirlić, S.**, Jester-Zürker, R., John-Puthenveetil, G., Kniesner, B. and Tropea, C. (2013): Computational Modelling of Flow and Scalar Transport Accounting for Near-Wall Turbulence with Relevance to Gas Turbine Combustors. “*Flow and Combustion in Advanced Gas Turbine Combustors*”, Fluid Mechanics and Its Applications Vol. **102**, J. Janicka et al. (Eds.), pp. 263-294, Springer Verlag (ISBN: 978-94-007-5319-8), DOI: [http://dx.doi.org/10.1007/978-94-007-5320-4\\_9](http://dx.doi.org/10.1007/978-94-007-5320-4_9)
- [13] John-Puthenveetil, G. and **Jakirlić, S.** (2013): On “Adaptive Wall-Functions” for LES of Flow and Heat Transfer. “*New Results in Numerical and Experimental Fluid Mechanics IX*”, *Notes on Numerical Fluid Mechanics and Multidisciplinary Design* (NNFM), Vol. **124**, Dillmann, A., Heller, G., Krämer, E., Kreplin, H.-P., Nitsche, W. and Rist, U. (Eds.), pp. 103-112, Springer Verlag (ISBN: 978-3-319-03157-6)
- [14] Maduta, R. and **Jakirlić, S.** (2012): An eddy-resolving Reynolds stress transport model for unsteady flow computations. In “Advances in Hybrid RANS-LES Modelling 4”. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, Vol. **117**, S. Fu, W. Haase, S.-H. Peng and D. Schwaborn (Eds.), pp. 77-89, Springer Verlag (ISBN 978-3-642-31817-4)
- [15] **Jakirlić, S.**, Jester-Zürker, R., John-Puthenveetil, G., Kniesner, B. and Tropea, C. (2011): Computational modelling of flow and scalar transport accounting for near-wall turbulence with relevance to gas turbine combustors. In “Flow and Combustion in Advanced Gas Turbine Combustors”. *Fluid Mechanics and Its Applications*, Vol. **102**, Janicka, J., Sadiki, A., Schäfer, M. and Heeger, C. (Eds.), pp. 263-294, Springer Verlag (ISBN: 978-94-007-5319-8)
- [16] Berberović, E., Roisman, I.V., **Jakirlić, S.** and Tropea, C. (2011): Computational study of hydrodynamics and heat transfer associated with a liquid drop impacting a hot surface. *Computational Fluid Dynamics 2010*, A. Kuzmin (Ed.), pp. 543-548, Springer Verlag (ISBN 978-3-642-17883-2)
- [17] Maduta, R. and **Jakirlić, S.** (2011): Sensitizing Second-Moment Closure model to turbulent flow unsteadiness. *Computational Fluid Dynamics 2010*, A. Kuzmin (Ed.), pp. 341-347, Springer Verlag (ISBN 978-3-642-17883-2)
- [18] **Jakirlić, S.**, Kadavelil, G., Sirubalo, E., von Terzi, D., Breuer, M. and Borello, D. (2010): 14th ERCOFTAC SIG15 Workshop on Turbulence Modelling: Turbulent Flow Separation in a 3-D Diffuser. “Sapienza” University of Rome, September 18, 2009, *ERCOFTAC Bulletin*, December Issue, No. **85**, pp. 5-13
- [19] Basara, B., **Jakirlić, S.**, Aldudak, F. and Tropea, C. (2010): Truck interference effects on a car during an overtaking manoeuvre: a computational study. “*New Results in Numerical and Experimental Fluid Mechanics VII*”, *Notes on Numerical Fluid Mechanics and*



- Multidisciplinary Design* (NNFM), Vol. **112**, A. Dillmann, G.Heller, M.Klaas, H.-P. Kreplin, W.Nitsche and W. Schröder (Eds.), pp. 611-619, Springer Verlag (ISBN: 978-3-642-14242-0)
- [20] **Jakirlić, S.**, Eisfeld, B., Jester-Zürker, R., Tropea, C. and Kroll, N. (2009): Computational Modelling of Transonic Aerodynamic Flows using Near-Wall, Reynolds Stress Transport Models. In “MEGADESIGN and MegaOpt – German Initiatives for Aerodynamic Simulation and Optimization in Aircraft Design”. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, Vol. **107**, Kroll, N., Schwamborn, D., Becker, K., Rieger, H., Thiele, F. (Eds.), pp. 73-92, Springer Verlag (ISBN: 978-3-642-04092-4)
- [21] Steiner, H., **Jakirlić, S.**, Kadavelil, G., Šarić, S., Manceau, R. and Brenn, G. (2009): Report on 13<sup>th</sup> ERCOFTAC Workshop on Refined Turbulence Modelling. September 25-26, 2008, Graz University of Technology, *ERCOFTAC Bulletin*, June Issue, No. **79**, pp. 24-29
- [22] **Jakirlić, S.**, Manceau, R., Šarić, S., Fadai-Ghotbi, A., Kniesner, B., Carpy, S., Kadavelil, G., Friess, C., Tropea, C. and Boree, J. (2009): LES, Zonal and Seamless Hybrid LES/RANS: Rationale and Application to Free and Wall-Bounded Flows involving Separation and Swirl. In “Numerical Simulation of Turbulent Flows and Noise Generation“, *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, Vol. **104**, Brun, C., Juvé, D., Manhart, M., Munz, C.-D. (Eds.), pp. 253-282, Springer Verlag (ISBN: 978-3-540-89955-6)
- [23] Basara, B., Girimaji, S., **Jakirlić, S.**, Aldudak, F. and Schrefl, M. (2008): Experiments and calculations relevant to aerodynamic effects during highway passing manoeuvres. In “The Aerodynamics of Heavy Vehicles II: Trucks, Buses and Trains”. *Lecture Notes in Applied and Computational Mechanics*, Vol. **41**, R. McCallen, F. Browand and J. Ross (Eds.), pp. 433-447, Springer Verlag (ISBN: 978-3-540-85069-4)
- [24] Šarić, S., Kniesner, B., Mehdizadeh, A., **Jakirlić, S.**, Hanjalić, K. and Tropea, C. (2008): Comparative assessment of hybrid LES/RANS models in turbulent flows separating from smooth surfaces. In “Advances in Hybrid RANS-LES Modelling”. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, Vol. **97**, S.-H. Peng and W. Haase (Eds.), pp. 142-151, Springer Verlag (ISBN: 978-3-540-77813-4)
- [25] Čavar, D., Meyer, K.E., Jakirlić, S. and Šarić, S. (2008): LES-based POD analysis of jet in cross flow. ERCOFTAC Series, 1, Volume **13**, Direct and Large-Eddy Simulation VII, Part 3, Armenio, V., Geurts, B. and Fröhlich, J. (Eds.), Springer Verlag (ISBN 978-90-481-3651-3), pp. 253-259
- [26] Thiele, F. and Jakirlić, S. (2007): Report on 12<sup>th</sup> ERCOFTAC/IAHR/COST Workshop on Refined Turbulence Modelling. October, 12-13, 2006, Technical University of Berlin, *ERCOFTAC Bulletin*, No. **75**, pp. 5-10
- [27] Šarić, S., Jakirlić, S., Čavar, D., Kniesner, B., Altenhöfer P. and Tropea, C. (2007): Computational study of mean flow and turbulence structure in inflow system of a swirl combustor. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, Vol. **96**, Tropea et al. (Eds.), pp. 462-470, Springer Verlag (ISBN: 978-3-540-74458-0)
- [28] Basara, B., Aldudak, F., Schrefl, M., Jakirlić, S., Hanjalić, K., Tropea, C. and Mayer, J. (2007): Experimental Investigations and Computations of Unsteady Flow past a Real Car Using a Robust Elliptic Relaxation Closure with a Universal Wall Treatment. *SAE Technical Paper Series*, Paper No. **2007-01-0104**, pp. 1-11, (also in *SAE 2007 Transactions, Journal of Passenger Cars – Mechanical Systems*, March 2008; Vol. V116-6, ISBN 978-0-7680-1985-8), DOI: <http://dx.doi.org/10.4271/2007-01-0104>
- [29] Kniesner, B., Šarić, S., Mehdizadeh, A., Jakirlić, S., Hanjalić, K., Tropea, C., Sternel, D., Gauß, F. and Schäfer, M. (2007): Wall treatment in LES by RANS: method development

and application to aerodynamic flows and swirl combustors. *ERCOFTAC Bulletin*, No. 72, pp. 33-40

- [30] Šarić, S., Jakirlić, S., Breuer, M., Jaffrezic, B., Deng, G., Chikhaoui, O., Fröhlich, J., von Terzi, D., Manhart, M. and Peller, N. (2007): Evaluation of Detached Eddy Simulations for predicting the flow over periodic hills. *ESAIM Proceedings*, Vol. 16 (February), E. Cances and J.-F. Gerbeau (Eds.), pp. 133-145, EDP Sciences, France (*CEMRACS 2005 – Computational Aeroacoustics and Computational Fluid Dynamics in Turbulent Flows*, Marseille, France, July 18 – August 26, 2005), DOI: <https://doi.org/10.1051/proc:2007016>
- [31] Jakirlić, S., Hanjalić, K. and Tropea, C. (2006): Anisotropy Evolution in Relaminarizing Boundary Layers: a DNS-aided Second-Moment Closure Analysis. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design V*, Vol. 92, Rath, H.J.; Holze, C.; Heinemann, H.-J.; Henke, R. and Hönlinger, H. (Eds.), pp. 496-503, Springer Verlag (ISBN: 978-3-540-33286-2), DOI: [https://doi.org/10.1007/978-3-540-33287-9\\_61](https://doi.org/10.1007/978-3-540-33287-9_61)
- [32] Šarić, S., Jakirlić, S. and Tropea, C. (2006): Turbulent Flow Separation Control by Boundary Layer Forcing: a Computational Study. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design V*, Vol. 92, Rath, H.J.; Holze, C.; Heinemann, H.-J.; Henke, R. and Hönlinger, H. (Eds.), pp. 513-520, Springer Verlag (ISBN: 978-3-540-33286-2), DOI: [https://doi.org/10.1007/978-3-540-33287-9\\_63](https://doi.org/10.1007/978-3-540-33287-9_63)
- [33] Jester-Zürker, R. and Jakirlić, S. (2004): Second-Moment Closure Modelling of Swirl-Induced Separation. *Notes on Numerical Fluid Mechanics*, Vol. 87, Breitsamter et al. (Eds.), pp. 467-474, Springer Verlag (ISBN: 978-3-540-20258-5)
- [34] Hanjalić, K. and Jakirlić, S. (2002): Second-Moment Turbulence Closure Modelling (book chapter). In *Closure Strategies for Turbulent and Transitional Flows*, B.E. Launder and N.H. Sandham (Eds.), pp. 47-101, Cambridge University Press, Cambridge, UK (ISBN: 0-521-79208-8)
- [35] Jakirlić, S., Jester-Zürker, R. and Tropea, C. (2002): Report on 9<sup>th</sup> ERCOFTAC/IAHR/COST Workshop on Refined Turbulence Modelling. October, 9-10, 2001, Darmstadt University of Technology, *ERCOFTAC Bulletin*, No. 55, pp. 36-43
- [36] Jakirlić, S., Hadžić, I., Djugum, A. and Tropea, C. (2002): Boundary-Layer Separation Computed by Second-Moment Closure Models. *Notes on Numerical Fluid Mechanics*, Vol. 77, pp. 215-222, Wagner et al. (Eds.), Springer Verlag (ISBN: 978-3-540-42696-7)
- [37] Jakirlić, S., Hadžić, I., Pascal, H., Hanjalić, K. and Tropea, C. (2001): Computational Study of Joint Effects of Shear, Compression and Swirl on Flow and Turbulence in a Valveless Piston-Cylinder Assembly. *SAE Technical Paper Series*, Paper No. 2001-01-1236, pp. 1-40 (also in *SAE 2001 Transactions, Journal of Engines*, Vol. V110-3, September 2002; ISBN 0-7680-0875-1), DOI: <http://dx.doi.org/10.4271/2001-01-1236>
- [38] Jakirlić, S. and Tropea, C. (1999): Lässt sich Turbulenz modellieren? *Thema Forschung*, Technische Universität Darmstadt, No. 1, pp. 118-127
- [39] Jakirlić, S., Volkert, J., Pascal, H., Hanjalić, K. and Tropea, C. (1999): On the modelling of strongly swirling confined flow subjected to an anisotropic compression. *ERCOFTAC Bulletin*, March, No. 40, pp. 27-32
- [40] Hanjalić, K., Hadžić, I., Jakirlić, S. and Basara, B. (1999): Modelling the turbulent wall flows subjected to strong pressure variations. In *Modelling Complex Turbulent Flows*, Salas, Hefner, Sakell (Eds.), Kluwer Academic Publisher, Springer Verlag, ISBN 10: 0792355903 / ISBN 13: 9780792355908, pp. 203-222, pp. 203-222, DOI: <http://dx.doi.org/10.1007/978-94-011-4724-8>
- [41] Harper, R.D. and Jakirlić, S. (1998): Incompressible Recirculating Flows: A Critical Comparison of Computations for Low- and High-Reynolds Number Flow over a Backward-Facing Step. *Notes on Numerical Fluid Mechanics*, Vol. 65, pp. 141-153, A.

- Dervieux, M. Brazza and J.-P. Dussauge (Eds.), Vieweg Braunschweig (ISBN: 3-528-06965-1), DOI: <http://dx.doi.org/10.1007/978-3-322-89859-3>
- [42] Jakirlić, S., Hanjalić, K. and Hadžić, I. (1998): Solutions of non-equilibrium wall boundary layers with a low-Reynolds-number second moment closure. *Notes on Numerical Fluid Mechanics*, Vol. **65**, pp. 231-240, A. Dervieux, M. Brazza and J.-P. Dussauge (Eds.), Vieweg Braunschweig (ISBN: 3-528-06965-1), DOI: <http://dx.doi.org/10.1007/978-3-322-89859-3>
- [43] Jakirlić, S., Hanjalić, K. and Hadžić, I. (1998): Computations of separating and reattaching flows with high-and low-Reynolds-number second moment closure. *Notes on Numerical Fluid Mechanics*, Vol. **65**, pp. 127-140, A. Dervieux, M. Brazza and J.-P. Dussauge (Eds.), Vieweg Braunschweig (ISBN: 3-528-06965-1), DOI: <http://dx.doi.org/10.1007/978-3-322-89859-3>
- [44] Hanjalić, K., Jakirlić, S. and Hadžić, I. (1995): Computation of Oscillating Turbulent Flows at Transitional Re-Numbers. *Turbulent Shear Flows*, Vol. **9**, pp 323-342, F. Durst et al. (Eds.), Springer Berlin (ISBN 3-540-577041). Selected Papers from the 9th International Symposium on *Turbulent Shear Flows*, Kyoto, Japan, August 16-18, 1993, DOI: [http://dx.doi.org/10.1007/978-3-642-78823-9\\_20](http://dx.doi.org/10.1007/978-3-642-78823-9_20)

• **V. In Proceedings of Symposiums with Review-Process**

- [1] Basara, B. and Jakirlić, S. (2018): Flow and Thermal Management in Automotive Engineering: recent CFD-aided Developments. *9<sup>th</sup> Int. Symp. on Turbulence, Heat and Mass Transfer (THMT'18)*, Rio de Janeiro, Brazil, July 10-13 (**keynote lecture**)
- [2] Krumbein, B., Maduta, R., Jakirlić, S. and Tropea, C. (2018): Performance assessment of scale-resolving models in computing turbulent flow over a porous wall. *12th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM12)*, Montpellier, France, September 26-28
- [3] Maduta, R., Wegt, S. and Jakirlić, S. (2018): A transition-sensitive Reynolds-stress model of turbulence. *12th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM12)*, Montpellier, France, September 26-28
- [4] Jakirlić, S., Kutej, L., Basara, B. and Tropea, C. (2018): On PANS- $\zeta$ -f model assessment by reference to car aerodynamics. *7th Int. Symposium on Hybrid RANS/LES Methods (HRLM)*, 17-19 September 2018, Berlin, Germany
- [5] Krumbein, B., Jakirlić, S., Termini, V., Mizobuchi, A. and Tropea, C. (2017): Flow and heat transfer in cross-stream type T-junctions: a computational study. *10th International Symposium on Turbulence and Shear Flow Phenomena (TSFP10)*, Chicago, IL, USA, July 6–9
- [6] Jungmann, J., Schütz, T. Tropea C. and Jakirlic S. (2016): Flow past a DrivAer body in a scale model wind tunnel: computational study ba reference to a complementary experiment, *International Conference on Vehicle Aerodynamics 2016: Aerodynamics by Design*, Institution of Mechanical Engineers, Coventry Transport Museum Millennium Place Coventry, UK, 21–22 September
- [7] Kütemeier, D., Maden, I., Maduta, R., Kriegseis, J., Jakirlic, S. and Tropea, C. (2016): Plunging airfoil: leading edge vortex manipulation by plasma actuators. *11th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM11)*, Palermo, Italy, September 21-23
- [8] Maduta, R. and Jakirlic, S. (2016): A numerically robust Reynolds stress model for improved prediction of practically relevant separating flow applications. *11th Int. ERCOF-*

*TAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM11)*, Palermo, Italy, September 21-23

- [9] Inoue, S. Tsukahara, T., Jakirlic, S. and Kawaguchi, Y. (2016): A Reynolds stress model for drag-reducing viscoelastic turbulent flows. *11th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM11)*, Palermo, Italy, September 21-23
- [10] Fooroghi, P., Stroh, A., Magagnato, F., Krumbein, B., Jakirlic, S. and Frohnapfel, B. (2016): Flow over a surface with multiscale, randomly distributed roughness. *11th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM11)*, Palermo, Italy, September 21-23
- [11] Krumbein, B., Fooroghi, P., Jakirlic, S., Magagnato, F. and Frohnapfel, B. (2016): VLES modeling of flow over walls with variably-shaped roughness by reference to complementary DNS, *11th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM11)*, Palermo, Italy, September 21-23
- [12] Krumbein, B., Jakirlic, S. and Tropea, C. (2016): Jet impingement onto a heat wall: a VLES study, *11th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM11)*, Palermo, Italy, September 21-23
- [13] Chang, C-Y., Krumbein, B., Jakirlić, S., Tropea, C., Basara, B., Sadiki, A., Janicka, J., Böhm, B., Dreizler, A. and Peterson, B. (2016): Flow Dynamics in IC-Engine Configurations simulated by Scale-Resolving Models. *Int. Multidimensional Engine Modeling (IMEM) User's Group Meeting at the SAE Congress*, Detroit, MI, USA, April 11
- [14] Tropea, C., Bonaccorso, E., Criscione, A., Hauk, T., Jakirlic, S., Kintea, D., Hai Li, Roisman, I.V. and Schremb, M. (2015): Physics of aircraft icing: A predictive challenge. *8<sup>th</sup> Int. Symp. on Turbulence, Heat and Mass Transfer (THMT'15)*, Sarajevo, Bosnia and Herzegovina, September 15-18 (**keynote lecture**)
- [15] Maduta, R., Jakirlic, S. and Ullrich M. (2015): A numerically upgraded instability-sensitized Reynolds stress model for complex turbulent flow applications. *8<sup>th</sup> Int. Symp. on Turbulence, Heat and Mass Transfer (THMT'15)*, Sarajevo, Bosnia and Herzegovina, September 15-18
- [16] Maden, I., Maduta, R., Kriegseis, J., Jakirlic, S., Grundmann, S. and Tropea, C. (2015): On modelling the plasma-actuator-related turbulence production in RANS closure models. *8<sup>th</sup> Int. Symp. on Turbulence, Heat and Mass Transfer (THMT'15)*, Sarajevo, Bosnia and Herzegovina, September 15-18
- [17] Kadrić, Dž., Alispahić, M., Šikalo, Š., Jakirlić, S. and Ganić, E.N. (2015): Effects of the plate material characteristics and its inclination angle on falling film breakup. *8<sup>th</sup> Int. Symp. on Turbulence, Heat and Mass Transfer (THMT'15)*, Sarajevo, Bosnia and Herzegovina, September 15-18
- [18] Schremb., M., Roisman, I.V., Jakirlic, S. and Tropea, C. (2016): Freezing Behavior of Supercooled Water Drops Impacting onto a Cold Surface. *27<sup>th</sup> European Conference on Liquid Atomization and Spray Systems - ILASS*, Brighton, UK, September 4-7
- [19] Pavlovic, Z., Pachler, K., Edelbauer, W., Basara, B. and Jakirlic, S. (2016): Primary Breakup of Turbulent Liquid Jet –an LES Study. *27<sup>th</sup> European Conference on Liquid Atomization and Spray Systems - ILASS*, Brighton, UK, September 4-7
- [20] Chang, C.-Y., Jakirlić, S., Krumbein, B. and Tropea, C. (2015): A novel VLES model for turbulent flow simulations. *9th International Symposium on Turbulence and Shear Flow Phenomena (TSFP9)*, Melbourne, Australia, June 30 – July 3
- [21] Röhrig, R., Jakirlić, S. and Tropea, C. (2015): Large Eddy Simulation of a light gas stratification break-up by an entraining turbulent jet. *9th International Symposium on Turbulence and Shear Flow Phenomena (TSFP9)*, Melbourne, Australia, June 30 – July 3

- [22] Inoue, S., Tsukahara, T., Jakirlić, S. and Kawaguchi, Y. (2015): A Reynolds-stress model for turbulent flow of a drag-reducing viscoelastic fluid. *The Asian Symposium on Computational Heat Transfer and Fluid Flow - ASCHT 2015*, Busan, Korea, June 21 – 24
- [23] Jakirlic, S., Maden, I., Maduta, R., Kriegseis, J., Grundmann, S. and Tropea, C. (2015): Computational modelling of plasma-actuated turbulent flow control. *25th JUMV International Automotive Conference Science and Motor Vehicles*, Belgrade, Serbia, April 14-15
- [24] Ullrich, M., Krumbein, B., Maduta, R. and Jakirlic, S. (2014): An eddy-resolving Reynolds stress model for the turbulent bubbly flow in a square cross-sectioned bubble column. Paper No. IMECE2014-38054, *ASME 2014 International Mechanical Engineering Congress & Exposition - IMECE2014*, Montreal, Quebec, Canada, November 14-20, DOI: <https://doi.org/10.1115/IMECE2014-38054>
- [25] Maden, I., Maduta, R., Jakirlic, S., Grundmann, S. and Tropea, C. (2014): Plasma-Actuated control of a 3D diffuser flow modeled by an instability-sensitive second-moment closure. *10th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM10)*, Marbella, Spain, September 17-19
- [26] Röhrig, R., Jakirlic, S. and Tropea, C. (2014): Comparative computational study of turbulent flow in a 90° pipe elbow. *10th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM10)*, Marbella, Spain, September 17-19
- [27] Ullrich, M., Maduta, R. and Jakirlic, S. (2014): Turbulent bubbly flow in a vertical pipe computed by an eddy resolving Reynolds stress model. *10th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM10)*, Marbella, Spain, September 17-19
- [28] Chang, C.-Y., Jakirlic, S., Basara, B. and Tropea C. (2014): Flow dynamics in a realistic IC-engine simulated by a near-wall VLES model. *10th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM10)*, Marbella, Spain, September 17-19
- [29] Pavlovic, Z., Scheidl, S., Edelbauer, W., Basara, B., Brenn, G. and Jakirlic, S. (2014): Numerical investigation of the liquid core length in sprays with fully turbulent boundary condition. *26<sup>th</sup> European Conference on Liquid Atomization and Spray Systems - ILASS*, Bremen, Germany, September 8-10
- [30] Cecora, R.-D., Radespiel, R. and Jakirlić, S. (2014): Modeling of Reynolds-stress augmentation in shear layer with strongly curved velocity profiles. 11th World Congress on Computational Mechanics (WCCM XI), 6<sup>th</sup> European Conference on CFD (ECFD VI), Barcelona, Spain, July 20-25
- [31] Jakirlić, S. (2014): Extending the bounds of “steady” RANS closures: resolving turbulence unsteadiness by a (near-wall) Reynolds stress model (**invited lecture**). *2<sup>nd</sup> Workshop on Progress in Wall Turbulence: Understanding and modeling*. Lille, France, June 18-20
- [32] Maden, I., Barckmann, K., Kriegseis, J., Jakirlić, S., Tropea, C. and Grundmann, S. (2014): Evaluating Force Field induced by a Plasma Actuator using the Reynolds-Averaged Navier Stokes Equation. 52<sup>nd</sup> AIAA Aerospace Sciences Meeting, National Harbor, MD, USA, January 13-17, Paper No. AIAA-2014-0326
- [33] Jakirlić, S. and Maduta, R. (2014): On “Steady” RANS Modeling for improved Prediction of Wall-bounded Separation. 52<sup>nd</sup> AIAA Aerospace Sciences Meeting, National Harbor, MD, USA, January 13-17, Paper No. AIAA-2014-0586, <https://doi.org/10.2514/6.2014-0586>
- [34] Pavlović, Z, Jakirlić, S., Basara, B. and Tropea, C. (2013): Primary Breakup Modelling Within the LES Framework. *25<sup>th</sup> European Conference on Liquid Atomization and Spray Systems - ILASS*, Crete (Chania), Greece, September 1-4

- [35] Chang, C.-Y., Dietrich, K., Jakirlić, S., Wassermann, F., Grundmann, S., Tropea, C. and Basara, B. (2013): Swirling flow in a tube with variably-shaped outlet orifices: an LES and VLES study. *8th International Symposium on Turbulence and Shear Flow Phenomena* (TSFP8), Poitiers, France, August 28-30
- [36] Maden, I., Maduta, R., Jakirlić, S., Grundmann, S., Tropea, C. and Eaton, J.K. (2013): Plasma-based manipulation of secondary flow towards pressure recovery enhancement in a 3D diffuser: a computational study. *8th International Symposium on Turbulence and Shear Flow Phenomena* (TSFP8), Poitiers, France, August 28-30
- [37] Criscione, A., Kintea, D., Roisman, I.V., Jakirlić, S. and Tropea, C. (2013): A new approach for water crystallization in the kinetics-limited growth region. *8th International Conference on Multiphase Flow - ICMF 2013*, Jeju, Korea, May 26 - 31
- [38] John-Puthenveetil, G., Jia, L., Reimann, T., Jakirlić, S. and Sternel, D.C. (2012): Thermal mixing of flow-crossing streams in a T-shaped junction: a comparative LES, RANS and Hybrid LES/RANS study. *7th Int. Symp. on Turbulence, Heat and Mass Transfer (THMT'12)*, Palermo, Italy, September 24-27; *Begell House, Inc.*, Hanjalić, K., Nagano, Y., Borello, D. and Jakirlić, S. (Editors), ISBN 978-1-56700-301-7, pp. 1934-1941, Digital Library - Int. Center of Heat and Mass Transfer, DOI: [10.1615/ICHMT.2012.ProcSevIntSympTurbHeatTransfPal.1970](https://doi.org/10.1615/ICHMT.2012.ProcSevIntSympTurbHeatTransfPal.1970)
- [39] Gärtner, M., Jakirlić, S., Freitag, M. and Tropea, C. (2012): Dissolution of light gas stratification in a safety containment model: computational study using the scale-adaptive  $k-\omega$ -SST model of turbulence. *7th Int. Symp. on Turbulence, Heat and Mass Transfer (THMT'12)*, Palermo, Italy, September 24-27; *Begell House, Inc.*, Hanjalić, K., Nagano, Y., Borello, D. and Jakirlić, S. (Editors), ISBN 978-1-56700-301-7, pp. 1891-1905, Digital Library - Int. Center of Heat and Mass Transfer, DOI: [10.1615/ICHMT.2012.ProcSevIntSympTurbHeatTransfPal.1930](https://doi.org/10.1615/ICHMT.2012.ProcSevIntSympTurbHeatTransfPal.1930)
- [40] Criscione, A., Tuković, Ž., Kintea, D., Roisman, I.V., Jakirlić, S. and Tropea, C. (2012): Numerical model of supercooled water freezing. *7th Int. Symp. on Turbulence, Heat and Mass Transfer (THMT'12)*, Palermo, Italy, September 24-27; *Begell House, Inc.*, Hanjalić, K., Nagano, Y., Borello, D. and Jakirlić, S. (Editors), ISBN 978-1-56700-301-7, pp. 1999-2003, Digital Library - Int. Center of Heat and Mass Transfer, DOI: [10.1615/ICHMT.2012.ProcSevIntSympTurbHeatTransfPal.2040](https://doi.org/10.1615/ICHMT.2012.ProcSevIntSympTurbHeatTransfPal.2040)
- [41] Criscione, A., Kintea, D., Tuković, Ž., Jakirlić, S., Roisman, I.V. and Tropea, C. (2012): On Computational Investigation of the Supercooled Stefan Problem. *Proc. of 12th Triennial International Conference on Liquid Atomization and Spray Systems – ICLASS 2012*, (ISBN 978-88-903712-1-9), Heidelberg, Germany, September 2-6, 2012
- [42] Jakirlić, S., Maduta, R. and Ullrich, M. (2012): Performance assessment of the Scale-adaptive Reynolds stress model by reference to tandem-cylinder configurations. *9th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements* (ETMM9), Thessaloniki, Greece, June 6-8
- [43] Maden, I., Maduta, R., Kriegseis, J., Jakirlić, S., Schwarz, C., Grundmann, S. and Tropea, C. (2012): Experimental and Computational study of the flow induced by a plasma actuator. *9th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements* (ETMM9), Thessaloniki, Greece, June 6-8
- [44] Jakirlić, S. (2012): Subscale modeling in variable-resolution methods for turbulent flow simulations using RANS transport models: zonal and global approaches (**keynote lecture**). *20th Annual Conference of the CFD Society of Canada*, Canmore, Alberta, Canada, May 9-11
- [45] Maden, I., Kriegseis, J., Maduta, R., Jakirlić, S., Schwarz, C., Grundmann, S. and Tropea, C. (2012): Derivation of a plasma-actuator model utilizing quiescent-air PIV da-

- ta. *20th Annual Conference of the CFD Society of Canada*, Canmore, Alberta, Canada, May 9-11
- [46] Basara, B., Jakirlić, S. and Chang, C-Y. (2012): Computation of IC-Engine-Type Flows by a Variable Resolution Model. *Int. Multidimensional Engine Modeling (IMEM) User's Group Meeting at the SAE Congress*, Detroit, MI, USA, April 23
- [47] Gärtner, M., Tropea, C., Jakirlić, S. and Gupta, S. (2011): Stereo Particle-Image-Velocimetry in an unstable air stratification due to natural convection in a model containment. *14th International Topical Meeting on Nuclear Reactor Thermalhydraulics (NURETH-14)*, Toronto, Canada, September 25-30
- [48] Criscione, A., Opfer, L., Röhrig, R., Roisman, I. and Jakirlić, S. (2011): Numerical investigations of impacting water drops in air cross-flow. *24<sup>th</sup> Annual Int. Conf. on Liquid Atomization and Spray Systems - ILASS*, Estoril, Portugal, September 5-7
- [49] Jakirlić, S., Chang, C-Y., Tropea, C. and Basara, B. (2011): Compression of a tumbling vortex: a LES and PANS study. *7th International Symposium on Turbulence and Shear Flow Phenomena (TSFP7)*, Ottawa, Canada, July 28-31
- [50] Hui, J., Obi, S. and Jakirlić, S. (2011): On reformulating the ERM-based second-moment closure towards a more robust turbulence model. *7th International Symposium on Turbulence and Shear Flow Phenomena (TSFP7)*, Ottawa, Canada, July 28-31
- [51] Subhash, M., Jakirlić, S., Karwa, N., Roisman, I., Tropea, C. and Greif, D. (2011): Computational Study of the Heat Transfer due to Normal Water Jet Impingement onto a Hot Steel Plate. *7th International Conference on Computational Heat and Mass Transfer*, Istanbul, Turkey, July 18-22
- [52] Jakirlić, S., C.-Y. Chang, G. Kadavelil, B. Kniesner, R. Maduta, S. Sarić and B. Basara (2011): Critical evaluation of some popular hybrid LES/RANS methods by reference to flow separation at a curved wall (**invited lecture**), 6th AIAA Theoretical Fluid Mechanics Conference, Honolulu, HI, USA, June 27-30, Paper No. AIAA-2011-3473
- [53] Jakirlić, S., Kniesner, B., Kadavelil, G. and Tropea, C. (2011): Aerodynamics and mixing characteristics of a model combustor: a hybrid LES/RANS study. *23rd JUMV International Automotive Conference Science and Motor Vehicles*, Belgrade, Serbia, April 19-21
- [54] Jakirlić, S. (2010): Advanced near-wall treatment in computational modelling of turbulent flows (**invited lecture**). *1<sup>st</sup> International Workshop on Near-Wall Reacting Flows*, Darmstadt/Seeheim-Jugenheim, November 18-19
- [55] Kadavelil, G. and Jakirlić, S. (2010): Towards an embedded LES: matching RANS with a downstream LES. *1<sup>st</sup> International Workshop on Near-Wall Reacting Flows*, Darmstadt/Seeheim-Jugenheim, November 18-19
- [56] Jakirlić, S. and Kniesner, B. (2010): Near-wall RANS modelling in LES of heat transfer in backward-facing step flows under conditions of constant and variable fluid properties. *ASME 3<sup>rd</sup> Joint U.S.-European Fluids Engineering Summer Meeting: Symposium on "DNS, LES and Hybrid RANS/LES Methods"*, Montreal, Quebec, Canada, August 1-5, Paper No. FEDSM-ICNMM2010-30354
- [57] Jakirlić, S. and Jester-Zürker, R. (2010): Convective heat transfer in wall-bounded flows affected by severe fluid properties variation: a second-moment closure study. *ASME 3<sup>rd</sup> Joint U.S.-European Fluids Engineering Summer Meeting: "7th Symposium on Fundamental Issues and Perspectives in Fluid Mechanics"*, Montreal, Quebec, Canada, August 1-5, Paper No. FEDSM-ICNMM2010-30729
- [58] Jakirlić, S., Kadavelil, G. and Kniesner, B. (2010): A Method for Interface-Turbulence Forcing in Hybrid LES/RANS Simulations. *8th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM8)*, Marseille, France, June 9-11
- [59] Maduta, R. and Jakirlić, S. (2010): Scrutinizing scale-supplying equation towards an instability sensitive Second-Moment Closure model. *8th Int. ERCOFTAC Symp. on Engi-*

*neering Turbulence Modelling and Measurements (ETMM8)*, Marseille, France, June 9-11

- [60] Jakirlić, S. and Jovanović, J. (2010): On Wall Boundary Conditions in RANS Closures: towards „Low-Reynolds Number Wall Functions“. *8th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements (ETMM8)*, Marseille, France, June 9-11
- [61] Roisman, I.V., Berberović, E., Jakirlić, S. and Tropea, C. (2010): Dynamics of two-phase flows induced by drop collisions. *7<sup>th</sup> Int. Conference on Multiphase Flow – ICMF2010*, Tampa, FL, USA, Mai 30 – June 4
- [62] Kadavelil, G., Kornhaas, M., Šarić, S., Sternel, D.C., Jakirlić, S. and Schäfer, M. (2009): Numerical and Physical Aspects in LES and Hybrid LES/RANS of Turbulent Flow Separation in a 3-D Diffuser. *6th Int. Symposium on Turbulence, Heat and Mass Transfer (THMT'09)*, Rome, Italy, September 14-18, Begell House Inc., Hanjalic et al. (Eds.), pp. 455-458
- [63] Jakirlić, S. Šarić, S., Kniesner, B., Kadavelil, G., Basara, B. and Chaouat, B. (2009): SGS modelling in LES of wall-bounded flows using transport RANS models: from a zonal towards a seamless hybrid LES/RANS method. *6th International Symposium on Turbulence and Shear Flow Phenomena (TSFP6)*, Seoul, Korea, June 22-24
- [64] Sirbubalo, E., Kinzel, M. Jakirlić, S. and Tropea, C. (2009): Experimental and modelling study of turbulence diffusion under zero-mean-flow conditions. *6th International Symposium on Turbulence and Shear Flow Phenomena (TSFP6)*, Seoul, Korea, June 22-24
- [65] Jakirlic, S., Aldudak, F., Basara, B. and Tropea, C. (2009): Computational modelling of car aerodynamics by relevance to a car-truck overtaking process. *22nd JUMV International Automotive Conference Science and Motor Vehicles*, Belgrade, Serbia, April 14-16
- [66] Jakirlić, S., Eisfeld, B. and Basara, B. (2009): Performance Assessment of Some Popular RANS Models by Relevance to High-lift Aerodynamics. *47<sup>th</sup> AIAA Aerospace Sciences Meeting*, Orlando, FL, USA, January 5-8, Paper No. AIAA-2009-0049
- [67] Kniesner, B. and Jakirlić, S. (2008): Ein hybrides LES/RANS Verfahren für konjugierte Strömung, Wärme- und Stoffübertragung mit Relevanz zu Drallbrennerkonfigurationen. *Deutscher Luft- und Raumfahrtkongress 2008*, Darmstadt, Germany, September 23-26
- [68] Čavar, D., Meyer, K.E., Jakirlić, S. and Šarić S. (2008): LES-based POD analysis of jet in cross flow. *7th ERCOFTAC Workshop on Direct and Large-Eddy Simulation – DLES7*, Trieste, Italy, September 8-10
- [69] van Hinsberg, N.P., Berberović, E., Roismann, I., Jakirlić, S. and Tropea, C. (2008): Complementary experimental and computational study of a drop impacting a shallow pool. *23<sup>th</sup> Annual Int. Conf. on Liquid Atomization and Spray Systems - ILASS*, Como Lake, Italy, September 6-8
- [70] Kniesner, B., Kadavelil, G., Gnirß, M., Jakirlić, S. and Tropea, C. (2008): Experimental and computational investigations of flow in a single-annular combustor configuration. *7th Int. ERCOFTAC Symp. on Engineering Turbulence Modelling and Measurements*, Limassol, Cyprus, June 4-6
- [71] Kniesner, B., Jester-Zürker, R., Jakirlić, S. and Hanjalić, K. (2007): RANS-SMC and hybrid LES/RANS of a backward-facing step flow subjected to increasingly enhanced wall heating. *5th International Symposium on Turbulence and Shear Flow Phenomena (TSFP5)*, Munich, Germany, August 27-29
- [72] Omori, T., Jakirlić, S., Obi, S. and Tropea, C. (2007): Shear less and sheared flow past a circular cylinder: comparative analysis by means of LES. *5th International Symposium on Turbulence and Shear Flow Phenomena (TSFP5)*, Munich, Germany, August 27-29
- [73] Šarić S., Kniesner, B., Altenhöfer, P., Jakirlić, S., Tropea, C., Čavar, D. and Basara, B. (2007): Swirl intensity influence on interaction between non-swirling and swirling co-



- axial jets in a combustor configuration: LES and modelling study. *5th International Symposium on Turbulence and Shear Flow Phenomena (TSFP5)*, Munich, Germany, August 27-29
- [74] Omori, T., Jakirlić, S., Obi, S. and Tropea, C. (2007): Computational analysis of the shear-induced lift force on a cylindrical particle by means of LES with relevance to particle-laden liquid flow in an upward duct. *International Conference on Multiphase Flows, ICMF 2007*, Leipzig, Germany, July9–13
- [75] Y. Huai, B. Kniesner, A. Sadiki and S. Jakirlić (2007): Large Eddy Simulations of Passive-scalar Mixing using a Tensorial Eddy Diffusivity-based SGS-Modeling. *11th EUROROMECH European Turbulence Conference*, June 25-28, Porto, Portugal; also in *Advances in Turbulence XI*, Book Series: Springer Proceedings in Physics, Vol. **117**, pp. 630-632
- [76] Jester-Zürker, R., Jakirlić, S. and Hanjalić, K. (2006): SMC modelling of relaminarizing pipe flow subjected to strong heating. *5th Int. Symposium on Turbulence, Heat and Mass Transfer (THMT'06)*, Dubrovnik, Croatia, September 25-29, Begell House Inc., Hanjalic et al. (Eds.), pp. 217-220
- [77] Jester-Zürker, R., Jakirlić, S. and Eisfeld, B. (2006): Near-wall, Reynolds-stress model calculations of transonic flow configurations relevant to aircraft aerodynamics. *Conference on Modelling Fluid Flow – CMFF'06*, Budapest, Hungary, September 6-9
- [78] Kniesner, B., Jakirlić, S. and Hanjalić, K. (2006): Scrutinizing hybrid RANS/LES approaches in separating flows with heat transfer. *Conference on Modelling Fluid Flow – CMFF'06*, Budapest, Hungary, September 6-9
- [79] Jakirlić, S., Kniesner, B., Šarić, S. and Hanjalić, K. (2006): Merging near-wall RANS models with LES for separating and reattaching flows. *ASME Joint U.S.-European Fluids Engineering Summer Meeting: Symposium on “DNS, LES and Hybrid RANS/LES Techniques”*, Miami, FL, USA, July, 17-20, Paper No. FEDSM2006-98039
- [80] Breuer, M., Manhart, M., Peller, N., Fröhlich, J., Hinterberger, C., Rodi, W., Deng, G., Chikhaoui, O., Šarić, S. and Jakirlić, S. (2005): A comparative study of the turbulent flow over a periodic arrangement of smoothly contoured hills. *6th ERCOFTAC Workshop on Direct and Large-Eddy Simulation - DLES6*, Poitiers, France, September 12-14, also in “Direct and Large-Eddy Simulation VI”, Book Series: ERCOFTAC Series, Vol. **10**, pp. 635-642
- [81] Šarić, S., Jakirlić, S. and Tropea, C. (2005): Computational analysis of locally forced flow over a wall-mounted hump at high-Re number. *4th International Symposium on Turbulence and Shear Flow Phenomena*, Williamsburg, VA, USA, June 27-29
- [82] Palm, R., Grundmann, S., Jakirlić, S. and Tropea, C. (2005): Experimental investigation and modelling of flow and turbulence in a swirl combustor. *4th International Symposium on Turbulence and Shear Flow Phenomena*, Williamsburg, VA, USA, June 27-29
- [83] Palm, R., Grundmann, S., Jakirlic, S., Weismüller, M. and Tropea, C. (2005): Experimentelle und numerische Untersuchungen der Strömung und Vermischung in einem Drallbrennermodell. *The BMBF Workshop on “Turbulenz in der Energietechnik”*, Darmstadt, June 6
- [84] Palm, R., Grundmann, S., Weismüller, M., Šarić, S., Jakirlić and Tropea, C. (2005): Experimental characterization and modelling of inflow conditions for a gas turbine swirl combustor. *6th Int. Symp. on Engineering Turbulence Modelling and Measurements*, Sardinia, Italy, Mai 23-25, also in “*Engineering Turbulence Modelling and Experiments*”, W. Rodi and M. Mulas (Eds.), Vol. **6**, pp. 835-844, Elsevier Science Ltd.
- [85] Jester-Zürker, R. and Jakirlić, S. (2005): Heat transfer modelling in a channel flow with variable fluid properties accounting for near-wall turbulence. *4th International Conference on Computational Heat and Mass Transfer*, Paris-Cachan, France, May 17-20

- [86] Groll, R., Jakirlić, S. and Tropea, C. (2004): Two-equation diameter-PDF transport modelling of an evaporating poly-dispersed droplet-laden flow. *19<sup>th</sup> Annual Int. Conf. on Liquid Atomization and Spray Systems - ILASS*, Nottingham, UK, September 6-8
- [87] Palm, R., Tropea, C. and Jakirlić, S. (2004): Experimentelle und numerische Untersuchungen der Strömung und Vermischung in einem Drallbrennermodell. *The BMBF meeting on „Turbulent Flows with Strong Streamline Curvature”*, Aachen, July 17th
- [88] Šarić, S., Jakirlić, S. and Tropea, C. (2004): A Periodically Perturbed Backward-Facing Step Flow by means of LES, DES and T-RANS: an Example of Flow Separation Control. *Int. Symp. on Advancements and Application of LES, ASME FED 2004 Summer Meeting*, Charlotte, NC, USA, July 11-15
- [89] Jester-Zürker, R., Jakirlić, S. and Tropea, C. (2004): Density-weighted, Reynolds-stress model computations of flow and mixing in a swirl combustor. *Int. SFB 568 Workshop on Trends in Numerical and Physical Modelling of Turbulent Combustion in Gas Turbine Combustors*, Heidelberg, April 1-2
- [90] Sadiki, A., Jakirlić, S. and Hanjalić, K. (2003): Towards a Thermodynamically Consistent, Anisotropy Resolving Turbulence Model for Conjugate Flow, Heat and Mass Transfer. *4th Int. Symposium on Turbulence, Heat and Mass Transfer*, Antalya, Turkey, October 12-17, Begell House Inc., Hanjalić et al. (Eds.), pp. 545-552
- [91] Basara, B., Jakirlić, S. and Alajbegović, A. (2003): A T-RANS Study of a Shear Flow around Circular Cylinder Pertaining to Disperse Phase in Solid/Liquid Upward Duct Flow. *4th Int. Symposium on Turbulence, Heat and Mass Transfer*, Antalya, Turkey, October 12-17, Begell House Inc., Hanjalic et al. (Eds.), pp. 1055-1062
- [92] Groll, R., Horvat, K., Jakirlić, S. and Tropea, C. (2003): Comparative study of Euler/Euler and Euler/Lagrange approaches simulating evaporation in a turbulent gas-liquid flow. *4th Int. Symposium on Turbulence, Heat and Mass Transfer*, Antalya, Turkey, October 12-17, Begell House Inc., Hanjalic et al. (Eds.), pp. 1063-1070
- [93] Jakirlic, S., Jester-Zürker, R. and Tropea, C. (2003): Second-Moment Closure Study of Combined Effects of Expansion Ratio and Swirl Intensity on Turbulent Mixing in Model Combustor. *3rd Int. Symp. on Turbulence and Shear Flows Phenomena*, June 25-27, Sendai, Japan
- [94] Groll, R., Jakirlić, S. and Tropea, C. (2002): Numerical modelling of particle laden flows with a four-equation model. *5th Int. Symp. on Engineering Turbulence Modelling and Measurements*, Mallorca, Spain, September 16-18 (also in “*Engineering Turbulence Modelling and Experiments*”, Eds.: W. Rodi and N. Fueyo, Vol. 5, pp. 939-948, Elsevier Science Ltd.)
- [95] Heukelbach, K., Jakirlić S., Nakić, R. and Tropea, C. (2002): Influence of turbulence on the stability of liquid sheets. *Int. Conf. on Liquid Atomization and Spray Systems - ILASS*, Zaragoza, Spain, September 9-11
- [96] Basara, B., Jakirlić, S. and Pržulj, V. (2001): Vortex-shedding flows computed by using a new, hybrid turbulence model. *8th Int. Symp. on Flow Modelling and Turbulence Measurements*, Tokyo, Japan, December 4-6
- [97] Jakirlić, S. and Hanjalić, K. (2001): A term-by-term model of turbulence energy and stress dissipation consistent with near wall limits. *2nd International Symposium on Turbulence and Shear Flows Phenomena*, June 27-29, Stockholm, Sweden
- [98] Knöll, J., Jakirlić, S. and Hanjalić, K. (2001): A priori Assessment of Algebraic and Differential Reynolds-Stress Models using DNS Database. *2nd International Symposium on Turbulence and Shear Flows Phenomena*, June 27-29, Stockholm, Sweden
- [99] Jakirlić, S., Hanjalić, K. and Tropea, C. (2000): Second-Moment Closure Analysis of Rotating and Swirling Confined Flows (**invited lecture**). *European Congress on Compu-*

- tational Methods in Applied Sciences and Engineering - ECCOMAS 2000*, Barcelona, Spain, September 11-14
- [100] Geldorp, W., Rioboo, R., Jakirlić, S., Muzaferija, S. and Tropea, C. (2000): Numerical and experimental drop impact on solid dry surfaces. Proc. *8th Int. Conf. on Liquid Atomization and Spray Systems - ICLASS*, Pasadena, CA, USA, July 16-20
- [101] Pascal, H., I., Jakirlić, S. and Hanjalić, K. (2000): DNS and RANS-Modelling of In-cylinder Turbulence Subjected to Axial Compression. *3rd Int. Symposium on Turbulence, Heat and Mass Transfer*, Nagoya, Japan, April 2-4
- [102] Volkert, J. Jakirlić, S., Pascal, H., Hanjalić, K. and Tropea, C. (1999): DNS, Experimental and Modelling Study of Axially Compressed In-Cylinder Swirling Flow. Proc. *1st Symposium on Turbulence and Shear Flows Phenomena*, Santa Barbara, CA, USA, September 12-15
- [103] Jakirlić, S., Hanjalić, K., Tropea, C. and Volkert, J. (1998): On the computation of rotating and swirling confined flows with second-moment closure models, *7th Symp. on Flow Modelling and Turbulence Measurements*, Tainan, Taiwan, October 5-7
- [104] Hanjalić, K., Jakirlić, S., Keller, J., Tropea, C. and Volkert J. (1997): Evolution of cylinder spin-down turbulence subjected to a single-stroke compression: experiments and modelling. Proc. *11th Symposium on Turbulent Shear Flows*, Universite Joseph Fourier, Grenoble, France, September 8-11
- [105] Hanjalić, K., Hadžić, I., Jakirlić, S. and Basara, B. (1997): Modelling the turbulent wall flows subjected to strong pressure variations (**invited lecture**). ICASE/LaRC/AFOSR *Symp. on Modelling Complex Turbulent Flow*, NASA-Langley, VA, August 11-13
- [106] Basara B., Hanjalić, K. and Jakirlić S. (1997): Numerical Simulation of Turbulent Flows in a Car Compartment with a Second-Moment Turbulence Closure. *ASME Fluids Engineering Division Summer Meeting - FEDSM97*, Vancouver, Canada, June 22-26
- [107] Hanjalić, K., Hadžić, I., Jakirlić, S. and Basara, B. (1997): CFD and Advanced Turbulence Models: Reconciling the Unreconcilable (**invited lecture**). *3rd Int. FIRE User Meeting*, Graz, June 16-17 (also as “Second-Moment Turbulence Closures for CFD: Needs and Prospects”, *Int. J. Computational Fluid Dynamics*, Vol. **12**, pp. 67-97, 1999)
- [108] Hanjalić, K., Jakirlić, S. and Ristorcelli J.R. (1996): Alternative Approach to Modelling the Dissipation Equation. *6th European Turbulence Conference*, Lausanne, Switzerland, July 2-5
- [109] Hanjalić, K., Jakirlić, S. and Hadžić, I. (1995): Expanding the limits of “equilibrium” second-moment turbulence closures (**invited lecture**). *Int. Symp. on Mathematical Modelling of Turbulent Flows*, The University of Tokyo, Japan, December 18-20
- [110] Jakirlić, S. and Hanjalić, K. (1995): A Second-Moment Closure for Non-Equilibrium and Separating High- and Low-Re-Number Flows. Proc. *10th Symposium on Turbulent Shear Flows*, The Pennsylvania State University, USA, August 14-16
- [111] Jakirlić S., Hadžić I. and Hanjalić K. (1994): Computation of Non-Equilibrium and Separating Flows at Transitional and Higher Re- Numbers with a New Low-Re-Number Second-Moment Closure Model. Proc. *9th DGLR Fach-Symposium der AG STAB*, Erlangen, 4-7 October
- [112] Jakirlić, S. and Hanjalić, K. (1994): On the Performance of the Second-Moment High- and Low-Re-Number Closures in Reattaching Flows. Proc. *1st Int. Symposium on Turbulence, Heat and Mass Transfer*, Lisbon, 9-12 August (also in “*Turbulence, Heat and Mass Transfer*”, Vol. **1**, K. Hanjalic and J.C.F. Pereira (Eds.), Begell House Inc., ISBN 1-56700-040-1, p. 190)
- [113] Jakirlić, S., Hanjalić, K. and Durst, F. (1993): Computation of Accelerating 3-D Turbulent Boundary Layers by a Second Moment Closure. Proc. *5th Int. Symp. on Refined Flow Modelling and Turbulence Measurements*, Paris, 7-10 September

- [114] Hanjalić, K., Jakirlić, S. and Hadžić, I. (1993): Computation of Oscillating Turbulent Flows at Transitional Re-Numbers. Proc. *9th Symp. on Turbulent Shear Flows*, Kyoto, Japan, August 16-18

• **VI. Invited Lectures/Presentations (In Book of Abstracts)**

- [1] Jakirlić, S. (2012): The ERCOFTAC knowledge base Wiki presenting turbulent flow separation in a 3D diffuser as a fluid mechanics benchmark. *6<sup>th</sup> European Congress on Computational Methods in Applied Sciences and Engineering – ECCOMAS 2012*, Vienna, Austria, September 10-14
- [2] Jakirlić, S. (2012): On eddy-resolving strategies for turbulent flow simulations: accommodating LES to engineering needs. *ASME 2012 Fluids Engineering Summer Meeting (FEDSM2012)*, Puerto Rico, USA, July 8-12
- [3] Jakirlić, S. (2012): Reynolds stress modelling of separated turbulent flows with an instability-sensitive closure. *DFG-FOR 1066 / C<sup>2</sup>A<sup>2</sup>S<sup>2</sup>E<sup>2</sup>*, Technische Universität Braunschweig, Germany, June 21-22
- [4] Jakirlić, S. (2012): Subscale modeling in variable-resolution methods for turbulent flow simulations using RANS transport models: zonal and global approaches. *20th Annual Conference of the CFD Society of Canada*, Canmore, Alberta, Canada, May 9-11
- [5] Jakirlić, S. (2012): Modelling study of turbulent-to-laminar transitional features of a strongly heated pipe flow. *83rd Annual Meeting of the International Association of Applied Mathematics and Mechanics*, Darmstadt, Germany, March 26-30
- [6] Jakirlić, S. (2010): On interface issues in LES/RANS coupling strategies: location control, variable exchange and turbulence forcing. *Int. Workshops on Advances in Computational Mechanics – IWACOM-II*, Yokohama, Japan, March 29-31
- [7] Jakirlić, S., Šarić, S., Kniesner, B., Djugum, A. and Cavar, D. (2008): Boundary Layer Separation from Continuous Surfaces with Increasingly Complex Topography: a Comparative LES, Hybrid LES/RANS and RANS Study. *79th GAMM Jahrestagung*, University of Bremen, Bremen, March 31 - April 04; Also in PAMM - Proc. Appl. Math. Mech. Vol. **8**, pp. 10097 – 10098 (2008) / DOI 10.1002/pamm.200810097
- [8] Jakirlić, S. and B. Kniesner (2008): Advanced hybrid LES/RANS strategies for turbulent flow simulations: status and perspective. *German-Jordanian Workshop*, Amman, Jordan, February 20-22
- [9] Jakirlić, S. (2007): Hybrid LES/RANS of aerodynamic-type flow configurations including heat transfer. *Colloquium on LES for External Aerodynamic Flows: Status and Perspectives*, Imperial College London, UK, March 15-16
- [10] Jakirlić, S. (2007): Modelling and Simulating Turbulence with Kemal Hanjalić: a Recollection of Joint Activities. *Annual Texas A & M Turbulence Symposium*, Texas A & M University, College Station, TX, USA, February 26-28
- [11] Jakirlić, S. and Basara, B. (2005): A near-wall SMC-based eddy-viscosity turbulence model designed for engineering flow computations. *3rd M.I.T. Conference on Computational Solid and Fluid Mechanics*, Boston, MA, USA, June 13-17
- [12] Jakirlić, S. (2005): Reverse Transition Phenomena and its Modelling. *76th GAMM Jahrestagung*, Universite du Luxembourg, Luxembourg, March 28 - April 01
- [13] Jakirlić, S., Basara, B. and Hanjalić, K. (2004): Accommodating second-moment and related closures to industrial needs. *Int. Workshops on Advances in Computational Mechanics - IWACOM*, Tokyo, Japan, November 3-6

- [14] Jakirlić, S. (2003): Some recent issues in turbulence modelling with relevance to aircraft aerodynamics. *AVL's Int. User Meeting on Fluid Dynamics and Structural Dynamics*, Graz, October 13-15

• **VII. In Book of Abstracts of Symposiums with Review-Process**

- [1] Köhler, F., Maduta, R., Krumbein, B. and S. Jakirlić, S. (2018): Scrutinizing Conventional and Eddy-resolving Unsteady RANS Approaches in Computing the Flow and Aeroacoustics past a Tandem Cylinder. *7<sup>th</sup> European Conference on Computational Fluid Dynamics (ECFD 7)*, June 11- 15, 2018, Glasgow, UK
- [2] Krumbein, B. and S. Jakirlić, S. (2018): Scale-resolving modeling of convective heat transfer in impinging and separating flows accounting for near-wall turbulence. *7<sup>th</sup> European Conference on Computational Fluid Dynamics (ECFD 7)*, June 11- 15, 2018, Glasgow, UK
- [3] Jakirlić, S., John-Puthenveetil, G., Maden, I. and Maduta, R. (2016): Comparative assessment of some popular scale-resolving models by relevance to separating flow in a 3D diffuser. *7th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS Congress 2016)*, Crete Island, Greece, July 5-10
- [4] Jakirlić, S., Maduta, R. and Ullrich, M. (2016): Wake interference of two cylinders in tandem simulated by a scale-resolving turbulence model. *87th Annual Meeting of the International Association of Applied Mathematics and Mechanics – GAMM Tagung*, Braunschweig, Germany, March 7-11
- [5] Jakirlić, S. and Maduta, R. (2015): Wall-bounded flow separation computed by a second-moment closure model. Auckland, *The 6th International Conference on Computational Methods - ICCM2015*, New Zealand, July 14-17
- [6] Jakirlić, S., Chang, C.-Y., John-Puthenveetil, G., Kniesner, B., Kutej, L., Maden, I., Maduta, R. and Ullrich, M. (2015): RANS-based modelling of turbulence in LES-related flow-simulation methods. *1<sup>st</sup> Pan American Congress on Computational Mechanics – PANACM 2015*, Buenos Aires, Argentina, April 27-29
- [7] Jakirlić, S., Chang, C.-Y., Kutej, L. and Tropea, C. (2014): A novel VLES model accounting for near-wall turbulence: physical rationale and applications. *67th Annual Meeting of the APS Division of Fluid Dynamics*, November 23-25, San Francisco, CA, USA, *Bulletin of the American Physical Society*, Vol. **59**, No. **20**, pp. 459
- [8] Jakirlić, S., Kutej, L. Hanssmann, D., Basara, B., T. Schütz and Tropea, C. (2014): Rear-end shape influence on the aerodynamic properties of a realistic car model: a RANS and LES/RANS study. *19th DGLR Fach-Symposium der AG STAB*, Munich, 4-5 November
- [9] Jakirlić, S., John-Puthenveetil, G., Maden, I. and Maduta, R. (2014): Separating flow in a 3D diffuser: comparative assessment of LES, Zonal Hybrid LES/RANS and URANS methods. *11th World Congress on Computational Mechanics (WCCM XI)*, 6<sup>th</sup> European Conference on CFD (ECFD VI), Barcelona, Spain, July 20-25
- [10] Jakirlić, S., John-Puthenveetil, G. and Maduta, R. (2014): Separated flow over a wall-mounted fence in the context of unsteady turbulence modeling. *5th Symposium on Hybrid RANS-LES Methods*, Texas A&M University, College Station, TX, USA, March 19-21
- [11] Chang, C.-Y., Jakirlić, S., Basara, B. and Tropea, C. (2014): Predictive capability assessment of the PANS- $\zeta$ -f model by relevance to turbulent flow separation and swirl/tumble phenomena. *5th Symposium on Hybrid RANS-LES Methods*, Texas A&M University, College Station, TX, USA, March 19-21
- [12] Jakirlić, S. and Maduta, R. (2013): Separated shear-layer instability reproduction by a Reynolds stress model of turbulence. *66th Annual Meeting of the APS Division of Fluid*

*Dynamics*, November 24-26, Pittsburgh, PA, USA, *Bulletin of the American Physical Society*, Vol. **58**, No. **18**, pp. 125-125

- [13] Jakirlić, S., Jovanović, J. and Basara, B. (2013): An alternative eddy-viscosity representation and its implication to turbulence modeling. *66th Annual Meeting of the APS Division of Fluid Dynamics*, November 24–26, Pittsburgh, PA, USA, *Bulletin of the American Physical Society*, Vol. **58**, No. **18**, pp. 126-126
- [14] Jakirlić, S., John-Puthenveetil, G. and Maduta, R. (2013): Separated flow over a wall-mounted fence in the context of unsteady turbulence modelling. *84th Annual Meeting of the International Association of Applied Mathematics and Mechanics*, Novi Sad, Serbia, March 18-22
- [15] Jakirlić, S. and Maduta, R. (2012): A “true” Unsteady RANS model of turbulence with inherent forcing. *65th Annual Meeting of the APS Division of Fluid Dynamics*, November 18–20, San Diego, CA, USA, *Bulletin of the American Physical Society*, Vol. **57**, No. **17**, pp. 59-59
- [16] Chang, C.-Y., Criscione, A., Jakirlić, S., Tropea, C. and Amirfazli, A. (2012): A New Formulation for Volume-of-Fluid Simulations of Drops on Solid Surfaces: Inclusion of Adhesion Force. *65th Annual Meeting of the APS Division of Fluid Dynamics*, November 18–20, San Diego, CA, USA, *Bulletin of the American Physical Society*, Vol. **57**, No. **17**, pp. 193-194
- [17] Criscione, A., Kintea, D., Roisman, I.V., Jakirlić, S., Tuković, Z. and Tropea, C. (2012): Computation of dendritic crystal growth in supercooled water using a level-set method. *65th Annual Meeting of the APS Division of Fluid Dynamics*, November 18–20, San Diego, CA, USA, *Bulletin of the American Physical Society*, Vol. **57**, No. **17**, pp. 248-249
- [18] Maden, I., Maduta, R., Kriegseis, J., Jakirlić, S., Schwarz, C., Grundmann, S. and Tropea, C. (2012): Computational Representation of the PIV-based Tabulated-Force Model of a Plasma-Actuator. *7th OpenFOAM Workshop*, Center of Smart Interfaces, Technische Universität Darmstadt, Germany, 25-28 June
- [19] Maduta, R., Ullrich, M. and Jakirlić, S. (2012): Second-Moment Closure Modeling of Unsteady Separation: Conventional vs. Instability-Sensitive Closure. *7th OpenFOAM Workshop*, Center of Smart Interfaces, Technische Universität Darmstadt, Germany, 25-28 June
- [20] Criscione, Röhrig, R., Jakirlić, S., Roisman, I.V. and Tropea, C. (2012): Impacting Droplets: Dynamic Contact Angle Modeling in OpenFOAM®. *7th OpenFOAM Workshop*, Center of Smart Interfaces, Technische Universität Darmstadt, Germany, 25-28 June
- [21] Subhash, M., Jakirlić, S. and Tropea, C. (2011): Hydrodynamics of multiple water jets impinging perpendicularly onto a flat plate: computational modelling. *2nd International Conference on Computational Engineering (ICCE 2011)*, Darmstadt, Germany, October 4-6
- [22] Kutej, L., Jakirlić, S., Basara, B. and Tropea, C. (2011): Computational study of a car-truck overtaking process. *2nd International Conference on Computational Engineering (ICCE 2011)*, Darmstadt, Germany, October 4-6
- [23] Jakirlić, S., Chang, C.-Y. and Basara, B. (2011): Performance assessment of the PANS- $\zeta$ -f model by reference to flow separated at a curved wall. *4th Symposium on Hybrid RANS-LES Methods*, Beijing, China, September 28-30
- [24] Maduta, R., Jakirlić, S. and Ullrich M. (2011): An eddy-resolving Reynolds stress transport model for separating flow computations. *4th Symposium on Hybrid RANS-LES Methods*, Beijing, China, September 28-30 (full-length paper published in “Advances in Hybrid RANS-LES Modelling”. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, Vol. **117**, S. Fu, W. Haase, S.-H. Peng and D. Schwaborn (Eds.), pp. 77-89, Springer Verlag (ISBN 978-3-642-31817-4))

- [25] Berberović, E., Roisman, I.V., Jakirlić, S. and Tropea, C. (2010): Computational study of hydrodynamics and heat transfer associated with a liquid drop impacting a hot surface. *6<sup>th</sup> Int. Conference on CFD – ICCFD6*, St. Petersburg, Russia, July 12-16 (full-length paper appeared in *Computational Fluid Dynamics 2010*, Springer, ISBN 978-3-642-17883-2)
- [26] Maduta, R. and Jakirlić, S. (2010): Sensitizing Second-Moment Closure model to turbulent flow unsteadiness. *6<sup>th</sup> Int. Conference on CFD – ICCFD6*, St. Petersburg, Russia, July 12-16 (full-length paper appeared in *Computational Fluid Dynamics 2010*, Springer, ISBN 978-3-642-17883-2)
- [27] Jakirlić, S., von Terzi, D. and Breuer, M. (2010): Lessons learned from the ERCOFTAC SIG15 computational workshops: flow in a 3D diffuser as an example. *5<sup>th</sup> European Conference on CFD - ECCOMAS CFD 2010*, Lisbon, Portugal, June 14-17
- [28] Jakirlić, S. and Kniesner, B. (2009): A Method for Interface-Turbulence Forcing in Hybrid LES/RANS Simulations. *62nd Annual Meeting of the APS Division of Fluid Dynamics*, November 22–24, Minneapolis, Minnesota, USA
- [29] Jakirlić, S., Kadavelil, G., Šarić, S., Breuer, M., Kornhaas, M., Sternel, D.C., Schäfer, M., Schneider, H., von Terzi, D. and Rodi, W. (2009): Comparative LES and Hybrid RANS/LES Study for Predicting Turbulent Flow Separation in a 3D Diffuser. *EUROMECH Colloquium 504 “LES for Aerodynamics and Aeroacoustics”*, Munich, Germany, March 23-25
- [30] Basara, B., Jakirlić, S., Aldudak, F. and Tropea, C. (2008): Truck interference effects on a car during an overtaking manoeuvre: a computational study. *16. DGLR-Fach-Symposium der AG STAB*, RWTH Aachen, November 03-04
- [115] Kniesner, B. and Jakirlić, S. (2008): Interface issues in LES/RANS coupling strategies: location, variables exchange and turbulence level adjustment (**invited presentation**). *5<sup>th</sup> European Congress on Computational Methods in Applied Sciences and Engineering - ECCOMAS 2008*, Venice, Italy, June 30 – July 5
- [31] Šarić, S., Kniesner, B., Mehdizadeh, A., Jakirlić, S., Hanjalić, K. and Tropea, C. (2007): Comparative assessment of hybrid LES/RANS models in turbulent flows separating from smooth surfaces. *2<sup>nd</sup> Symposium on Hybrid RANS-LES Methods*, Corfu, Greece, June 17-18 (full-length paper appeared in “Advances in Hybrid RANS-LES Modelling”. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, Vol. **97**, S.-H. Peng and W. Haase (Eds.), pp. 142-151, Springer Verlag, ISBN: 978-3-540-77813-4)
- [32] Basara, B., Girimaji, S., Jakirlić, S. and Schrefl, M. (2007): Experiments and calculations relevant to aerodynamic effects during highway passing manoeuvres. *Conference on “The Aerodynamics of Heavy Vehicles II: Trucks, Buses and Trains”*. Lake Tahoe, CA, USA, August 26-31
- [33] Šarić, S., Jakirlić, S., Čavar, D., Kniesner, B., Altenhöfer P. and Tropea, C. (2006): Computational study of mean flow and turbulence structure in inflow system of a swirl combustor. *15. DGLR-Fach-Symposium der AG STAB*, University of Darmstadt, November 29 - December 01
- [34] Kniesner, B., Šarić S. and Jakirlić, S. (2005): Convective heat transfer in a suddenly expanded channel computed using a hybrid RANS/LES method. *EUROMECH Colloquium 469 “LES of Complex Flows”*, Dresden, Germany, October, 6-8
- [35] Šarić, S., Jakirlić, S., Breuer, M., Jaffrezic, B., Fröhlich, J., von Terzi, D., Deng, G., Chikhaoui, O., Manhart, M. and Peller, N. (2005): Issues in hybrid LES-RANS and coarse grid LES of separated flows. *EUROMECH Colloquium 469 “LES of Complex Flows”*, Dresden, Germany, October, 6-8
- [36] Šarić, S., Jakirlić, S., Tropea, C., Toledo, M.S., Le Penven, L., Buffat, M., Cadiou, A. and Basara, B. (2005): LES of swirling and tumbling flows pertinent to combustor/IC-

engine configurations. *EUROMECH Colloquium 469 "LES of Complex Flows"*, Dresden, Germany, October, 6-8

- [37] Jakirlić, S., Hanjalić, K. and Tropea, C. (2004): Anisotropy Evolution in Relaminarizing Boundary Layers: a DNS-aided Second-Moment Closure Analysis. *14 DGLR-Fach-Symposium der AG STAB*, University of Bremen, November 16-18
- [38] Šarić, S., Jakirlić, S. and Tropea, C. (2004): Turbulent Flow Separation Control by Boundary Layer Forcing: a Computational Study. *14. DGLR-Fach-Symposium der AG STAB*, University of Bremen, November 16-18
- [39] Šikalo, Š, Wilhelm, H.-D., Jakirlić, S. and Tropea, C. (2004): Dynamic contact angle of spreading droplets: experiments and simulations. *75th Jahrestagung der GAMM*, Dresden, March 21-27
- [40] Jester-Zürker, R. and Jakirlić, S. (2002): Reynolds-Spannungsmodellierung drallinduzierter Ablöseerscheinungen - *Vortex Breakdown*. *13. DGLR-Fach-Symposium der AG STAB*, Technische Universität München, November 12-14
- [41] Jakirlić, S., Basara, B., Oswald, M. and Tropea, C. (2002): Numerische Modellierung transsonischer Umströmung von Tragflügeln mittels kommerzieller CFD-Software AVL-SWIFT. *13. DGLR-Fach-Symposium der AG STAB*, Technische Universität München, November 12-14
- [42] Jakirlić, S. and Basara, B. (2002): Neue Kombinationstechniken zur Verwendung von Turbulenzmodellen für industrielle CFD. *Interne Sitzung der GVC-Fachauschüsse „Wärme und Stoffübertragung“ und „CFD - Computational Fluid Dynamics“*, Paper Nr. 3.04, Weimar, March 4-6
- [43] Djugum, A., Hadžić, I., Jakirlić, S. and Tropea, C. (2000): Reynolds-Spannungsmodellierung von Hinterkantenablösung. *12. DGLR-Fach-Symposium der AG STAB*, Universität Stuttgart, November 15-17
- [44] Hanjalić, K., Jakirlić, S., Tropea, C. and Volkert, J. (1998): Experimental and Numerical Investigations of Joint Swirl and Compression Effects in a Rapid-Compression-Cylinder. *13th U.S. national Congress of Applied Mechanics*, University of Florida, Gainesville, Florida, June 21-26

### • **VIII. (Eingeladene) Vorträge / (Invited) Lectures (a selection)**

- [1] 1999, January 18<sup>th</sup>, *Technische Universität Darmstadt, Graduierten Kolleg (DFG GK 91-4)* „Modellierung und Numerische Beschreibung technischer Strömungen“: “Numerische Modellierung von Transitionsvorgängen“
- [2] 2000, October 27<sup>th</sup>, *Friedrich-Alexander Universität Erlangen-Nürnberg, Germany*: „Second-Moment Closure Analysis of Rotating and Swirling Confined Flows“
- [3] 2003, June 20<sup>th</sup>, *Keio University, Yokohama, Japan*: “Some recent topics/issues in turbulence modeling: homogeneous dissipation concept and hybrid EVM/RSM strategy”
- [4] 2003, July 8<sup>th</sup>, *RWDI, Guelph, Canada*: “Some recent developments in turbulence modeling: homogeneous dissipation concept and hybrid EVM/RSM strategy”
- [5] 2003, July 9<sup>th</sup>, *The University of Western Ontario, London, Canada*: “Turbulence Modeling and Simulations: Some new developments and future proposals”
- [6] 2004, January 23<sup>rd</sup>, *RWTH, Aachen, Germany*: “Some recent developments in turbulence modeling: homogeneous dissipation concept and hybrid EVM/RSM strategy”
- [7] 2004, April 6<sup>th</sup>, *Ecole Centrale de Lyon, France*: “Turbulence modeling and simulations (combining/interacting experiments) at Chair of Fluid Mechanics and Aerodynamics – TU Darmstadt”



- [8] 2004, June 23<sup>rd</sup>, *Technische Universität Darmstadt*, **Habilitationsvortrag**: “Belüftung von Straßentunneln: was passiert wenn’s brennt?”
- [9] 2005, June 10<sup>th</sup>, *Delft University, Delft, The Netherlands*, *Symposium devoted to the retirement of Prof. Dr. K. Hanjalic*: “Sarajevo School of Computational Heat and Fluid Flow“
- [10] 2005, July 29<sup>th</sup>, *CEMRACS, CIRM Luminy, Marseille, France*: “Second-moment and related closures: fundamentals and recent developments“
- [11] 2005, September 30<sup>th</sup>, *University of Stuttgart, ERCOFTAC PC South Germany Technology Day*: “Flow Computations and Experiments in Interaction“
- [12] 2006, February 9<sup>th</sup>, *Technische Universität Berlin, Germany*, *Universitätsöffentliches Colloquium im Rahmen der Besetzung einer W2-Professur*: „Ein Streifzug durch die Methoden zur numerischen Erfassung turbulenter Strömungen“
- [13] 2007, January 22<sup>nd</sup>, *Technische Universität Darmstadt, Germany*, *DFG-CNRS Workshop on LES of Complex Flows*: “Merging near-wall RANS models with LES for separating and reattaching flows: method development and application to aerodynamic-type flows and swirl combustor configurations”
- [14] 2007, February 26<sup>th</sup>, *Texas A&M University, College Station, TX, USA*: “Modelling and Simulating Turbulence with Prof. K. Hanjalic: a Recollection of Joint Activities (Achievements)”
- [15] 2007, September 30<sup>th</sup>, *University of Stuttgart, ERCOFTAC PC South Germany Technology Day*, “Unsteady Flow Calculations at FG SLA: Methods and Applications“
- [16] 2007, November 29<sup>th</sup>, *Technische Universität Karlsruhe, Germany*, *Universitätsöffentliches Colloquium im Rahmen der Besetzung einer W3-Professur*: „Die Zukunft der Strömungssimulation in Ingenieurwissenschaften?“
- [17] 2008, June 25<sup>th</sup>, *Technische Universität Wien, Austria*: “On Modelling Strategies in Turbulent Flow Simulations: Physical Rationale and Applications”
- [18] 2009, Mai 15<sup>th</sup>, *Universität Siegen, Germany*, *Universitätsöffentliches Colloquium im Rahmen der Besetzung einer W3-Professur*: „Strömungsexperimente und -simulationen in Wechselwirkung“
- [19] 2009, October 16<sup>th</sup>, *University of Stuttgart, ERCOFTAC PC South Germany Technology Day*, “Experimental and Computational Investigations of Flow and Mixing in a Single-Annular Combustor Configuration“
- [20] 2010, June 22<sup>nd</sup>, *Technische Universität Wien, Austria*, *Universitätsöffentliches Colloquium im Rahmen der Besetzung einer W3-Professur*: „Zusammenspiel der Strömungssimulationen und -experimente“
- [21] 2010, October 22<sup>nd</sup>, *Universität Rostock*: “Merging LES and RANS for turbulent flow computations: methods and applications”
- [22] 2013, November 7<sup>th</sup>, *DLR Göttingen*: “Sensitizing second-moment closure model to turbulent flow unsteadiness: physical rationale and application”
- [23] 2014, March, 14<sup>th</sup>, *Volkswagen, Wolfsburg*: “RANS-based eddy-resolving methods for turbulent flow simulation: physical rationale and applications”
- [24] 2014, April, 8<sup>th</sup>, *Michigan State University, East Lansing, MI, USA*: “Extending the bounds of “steady” RANS closures: resolving turbulence unsteadiness by a Reynolds stress model”
- [25] 2014, July, 16<sup>th</sup>, *Fakultät für Luft- und Raumfahrttechnik, Universität der Bundeswehr München, Neubiberg*: “On Hybrid LES/RANS modelling strategies for turbulent flow simulations: physical rationale and applications”
- [26] 2014, October, 7<sup>th</sup>, *Fraunhofer-Institut für Windenergie und Energiesystemtechnik - IWES, Universität Oldenburg*: “On turbulence modelling strategies for unsteady flow simulations: physical rationale and applications”

- [27] 2015, September 28-29, *Final colloquium of the European Project "Go4Hybrid"*, Berlin: "Residual turbulence modelling in Hybrid RANS/LES simulation methods"
- [28] 2016, March 8, *Notre Dame University (South Bend), IN, USA*: "Variable resolution methods for turbulent flow simulations: physical rationale and applications"
- [29] 2016, May 02, *Karlsruhe Institute of Technology, Karlsruhe*: "Residual turbulence modelling in Hybrid RANS/LES simulation methods"
- [30] 2016, July 5-6, *12<sup>th</sup> Haus der Technik Tagung Fahrzeugaerodynamik*, Conference Center München Messe: "Numerische Fahrzeugaerodynamik am Beispiel von "DrivAer" Modellkonfigurationen" ("Computational vehicle aerodynamics by reference to "DrivAer" model configurations")
- [31] 2017, July 10-12, *Ann Arbor University, MI, USA, UMich/NASA Special Symposium on Advanced Turbulence Modelling*: "On Reynolds-stress Modelling of Turbulence: Conventional vs. Eddy-resolving Closure"
- [32] 2017, September 20, *Beihang University (Beijing University on Aeronautics and Astronautics – BUAA)*, Beijing, China: "Subscale modelling in variable resolution simulation methods"

### • **IX. Supervised PhD Theses**

- [1] Rodion Groll (**June, 2002**): Numerische Modellierung der Verdunstung turbulenter Zwei-Phasen-Strömungen mittels eines Euler/Euler-Verfahrens (*Computational Modelling of Evaporation in Turbulent Two-Phase Flows with an Euler/Euler Method*). FG SLA, Technische Universität Darmstadt (**Shaker Verlag: ISBN 978-3-8322-0652-3**; <http://www.shaker.de/Online-Gesamtkatalog/details.asp?ID=5595392&CC=21462&ISBN=3-8322-0652-3>)
- [2] Kristijan Horvat (**February, 2006**): Numerische Modellierung des Sprayaufpralls unter Berücksichtigung des dadurch entstandenen Wandfilms (*Computational modelling of spray impact accounting for the wall film formation*). FG SLA, Technische Universität Darmstadt in Zusammenarbeit mit der Fa. "AVL List GmbH", Graz. (**Shaker Verlag: ISBN 978-3-8322-5891-7**; <http://www.shaker.de/Online-Gesamtkatalog/booklist.asp?ID=5595302&CC=4347&Reihe=269>)
- [3] Roland Palm (**April, 2006**): Experimentelle Untersuchung der Strömung und Vermischung in einem Drallbrennermodell (*Experimental Investigation of Flow and Mixing in a Model of Swirl Combustor*). FG SLA, Technische Universität Darmstadt. (**Universitäts- und Landesbibliothek Darmstadt**; <http://tuprints.ulb.tu-darmstadt.de/723/>)
- [4] Marc Poppner (**June, 2006**): Modellierung und Simulation der Sprühlackierung mit elektrostatisch unterstützter Hochrotationszerstäubung (*Modelling and simulation of electrostatic spray painting process with high-speed rotary bell atomizers*). (FG SLA, Technische Universität Darmstadt in Zusammenarbeit mit der Fa. "Daimler-Chrysler", Ulm), (**Shaker Verlag: ISBN 978-3-8322-5793-4**; <http://www.shaker.de/Online-Gesamtkatalog/booklist.asp?ID=5595302&CC=4347&Reihe=269>)
- [5] Roland Jester-Zürker (**December, 2006**): Reynolds-Spannungsmodellierung des Skalartransports unter Bedingungen variabler Stoffeigenschaften in Drallbrennerkonfigurationen (*Second-Moment Closure modelling of scalar transport in swirl combustors under variable flow property conditions*). FG SLA, Technische Universität Darmstadt (**Shaker Verlag: ISBN 978-3-8322-6742-1**; <http://www.shaker.de/Online-Gesamtkatalog/booklist.asp?ID=5595302&CC=4347&Reihe=269>)
- [6] Sanjin Šarić (**December, 2006**): Aktive Kontrolle der Strömungsablösung durch die Grenzschichtbeeinflussung: eine numerische Studie (*Turbulent flow separation control by boundary layer forcing: a computational study*). FG SLA, Technische Universität

- Darmstadt. (Universitäts- und Landesbibliothek Darmstadt; <http://tuprints.ulb.tu-darmstadt.de/873/>)
- [7] Björn Kniesner (**January, 2008**): Ein hybrides LES/RANS Verfahren für konjugierte Strömung, Wärme- und Stoffübertragung mit Relevanz zu Drallbrennerkonfigurationen (*A hybrid LES/RANS method for conjugated flow, heat and mass transfer with relevance to swirl combustor configurations*). FG SLA, Technische Universität Darmstadt (**ausgezeichnet mit dem Reinhardt Abraham – Lufthansa Stiftungspreis durch die DGLR / awarded the Reinhardt Abraham – Lufthansa Foundation Prize due to German Aerospace**). (Universitäts- und Landesbibliothek Darmstadt; <http://tuprints.ulb.tu-darmstadt.de/950/>)
- [8] Takeshi Omori (**January, 2008**): Grobstruktursimulation der scherungsbehafteten Umströmung eines zylinderförmigen Partikels (*LES Study of flow past a cylindrical particle subjected to mean shear*). FG SLA, Technische Universität Darmstadt (Shaker Verlag: ISBN 978-3-8322-7524-2; <http://www.shaker.de/Online-Gesamtkatalog/booklist.asp?ID=5595302&CC=4347&Reihe=269>)
- [9] Edin Berberović (**November, 2010**): Untersuchung der Strömungen mit freien Oberflächen relevant zum Sprayaufprall: numerische Simulation und theoretische Modellierung (*Investigation of free-surface flow associated with spray impact: numerical simulations and theoretical modelling*). FG SLA, Technische Universität Darmstadt (Universitäts- und Landesbibliothek Darmstadt; <http://tuprints.ulb.tu-darmstadt.de/2319/>)
- [10] Emir Sirbubalo (since November, 2006; **Mai, 2012**): Computational study of statistically one-dimensional propagation of turbulence (*Numerische Studie der statistisch ein-dimensionalen Propagation der Turbulenz*). FG SLA, Technische Universität Darmstadt; (Universitäts- und Landesbibliothek Darmstadt; <http://tuprints.ulb.tu-darmstadt.de/3036/>)
- [11] Gärtner, Marco (since August, 2008; **November 2012**): Experimentelle Ermittlung von Containment-typischen Geschwindigkeitsfeldern mittels fortgeschrittener Particle Image Velocimetry (PIV) zur Unterstützung der Validierung von Berechnungsmethoden (*Experimental ascertainment of containment-typical velocity fields using advanced Particle Image Velocimetry – PIV to support the validation of computational methods*). FG SLA, Technische Universität Darmstadt. BMWi Projekt im Rahmen der Initiative „Kompetenzerhaltung in Kernenergietechnik“; [http://www.bod.de/index.php?id=1132&objk\\_id=946960](http://www.bod.de/index.php?id=1132&objk_id=946960)
- [12] Gisa John-Puthenveetil, geb. Kadavelil (since March, 2008; **November, 2012**): Computational modelling of complex flows using eddy-resolving models accounting for near-wall turbulence (*Numerische Modellierung von komplexen Strömungen mittels wirbelauf-lösender Modelle unter Berücksichtigung der wandnahen Turbulenz*). FG SLA, Technische Universität Darmstadt. Teilprojekt C03 im Rahmen des „DFG SFB568: Strömung und Verbrennung in zukünftigen Gasturbinenbrennkammern“; (Shaker Verlag: ISBN=978-3-8440-1760-1) <http://www.shaker.de/de/content/catalogue/index.asp?lang=de&ID=8&ISBN=978-3-8440-1760-1>
- [13] Maduta, Robert (since March, 2009; **Mai, 2013**): An eddy-resolving Reynolds stress model for unsteady flow computations: development and application. FG SLA, Technische Universität Darmstadt. Im Rahmen des EU Projektes ATAAC: Advanced Turbulence Simulation for Aerodynamic Application Challenges (Universitäts- und Landesbibliothek Darmstadt; <http://tuprints.ulb.tu-darmstadt.de/3739/>)
- [14] Chi-Yao Chang (since October, 2009; **January, 2014**): Development and validation of scale-resolving models relevant to IC-engine flow configurations (*Entwicklung und Validierung einer wirbelauf-lösenden Berechnungsmethode zur Modellierung der Strömung in zu Verbrennungsmotoren relevanten Konfigurationen*). FG SLA, Technische Universität

Darmstadt (in Zusammenarbeit mit der Fa. "AVL List GmbH", Graz), (**Universitäts- und Landesbibliothek Darmstadt**; <http://tuprints.ulb.tu-darmstadt.de/4315/>)

- [15] Antonio Criscione (since March, 2010; **April, 2014**): Influence of ice formation on drop dynamics (*Aufprall unterkühlter Tropfen auf kalte Oberflächen*). FG SLA, Technische Universität Darmstadt. Teilprojekt C03 im Rahmen des „DFG SFB-TRR75-I Tropfendynamik unter extremen Umgebungsbedingungen“ (**Shaker Verlag**; ISBN=978-3-8440-3104-1). <http://www.shaker.de/de/content/catalogue/index.asp?lang=de&ID=8&ISBN=978-3-8440-3104-1>
- [16] Subhash, Maharshi (since July, 2008; **February 2016**): Computational modelling of liquid jet impingement onto heated surfaces (*Numerische Modellierung des Aufpralls von Flüssigkeitsstrahlen auf beheizte Oberflächen*). FG SLA, Technische Universität Darmstadt (in Zusammenarbeit mit der Fa. "Dillinger Hüttenwerke", Dillingen), (**Universitäts- und Landesbibliothek Darmstadt**; <http://tuprints.ulb.tu-darmstadt.de/6217/>)
- [17] Imdat Maden, (since July, 2011; **November, 2016**): Numerische Untersuchung zur aktiven Strömungsbeeinflussung durch Plasma-Aktuatoren: Modellentwicklung und Anwendung. Center of Smart Interfaces. FG SLA, Technische Universität Darmstadt. (**Universitäts- und Landesbibliothek Darmstadt**; <http://tuprints.ulb.tu-darmstadt.de/5977/>)
- [18] Matthias Ullrich, (since September, 2011; **November, 2016**): Second-moment closure modeling of turbulent bubbly flows within the two-fluid model framework (*Numerische Modellierung turbulenter Blasenströmungen im Rahmen der Euler-Euler Methode mittels eines Reynolds-Spannungsmodells*). BMWi (Bundesministerium für Wirtschaft und Technologie) Projekt im Rahmen der Initiative „Kompetenzerhaltung in Kernenergietechnik“ - Theoretische und numerische Untersuchungen zur Blasendynamik in Wasservorlagen, FG SLA, Technische Universität Darmstadt. (**Universitäts- und Landesbibliothek Darmstadt**; <http://tuprints.ulb.tu-darmstadt.de/5942/>)
- [19] Christian Morsbach, externer Doktorand, DLR Köln, (since November, 2009; **December, 2016**): Reynolds Stress Modelling for Turbomachinery Flow Applications (*Reynolds-Spannungsmodellierung für turbomaschinenrelevante Strömungskonfigurationen*). FG SLA, Technische Universität Darmstadt.
- [20] Rüdiger Röhrig, (since July, 2013; **Mai, 2017**): Grobstruktursimulation und Modellierung der Auflösung einer Heliumstratifikation durch Entrainment in einem Modellcontainment. BMWi (Bundesministerium für Wirtschaft und Technologie) Projekt, FG SLA, Technische Universität Darmstadt. (**Shaker Verlag**; ISBN=978-3-8440-5342-5); <https://www.shaker.de/de/content/catalogue/index.asp?lang=de&ID=8&ISBN=978-3-8440-5342-5>
- [21] Markus Schreimb, (since June, 2014, **April, 2018**): Hydrodynamics and Thermodynamics of Ice Accretion through Impact of Supercooled Large Droplets: Experiments, Simulations and Theory (Teilprojekt C03: „Aufprall unterkühlten Tropfen auf kalte Oberflächen“) im Rahmen des „DFG SFB-TRR75-II Tropfendynamik unter extremen Umgebungsbedingungen“. FG SLA, Technische Universität Darmstadt. (**Universitäts- und Landesbibliothek Darmstadt**; <http://tuprints.ulb.tu-darmstadt.de/7398/>)