V'yacheslav Akkerman's Contributions into Conference Proceedings

(*denotes presenters; **denotes Akkerman's advisees)

1. V. **Akkerman***, V. Bychkov, *Turbulent Flames with Realistically Large Density Drop at the Front*, International Workshop "Nonlinear processes in Combustion and Plasma based Technologies", Minsk, Belarus, Aug. 22–26, 2004.
2. V. **Akkerman***, V. Bychkov, *Influence of External Turbulence and the Darrieus-Landau instability on the flame velocity*, Proceedings of International Conference on Combustion and Detonation "Zel'dovich Memorial II", Moscow, Russia, Aug. 30 – Sep. 3, 2004.
3. V. **Akkerman***, V. Bychkov, *Effect of External Turbulence and the Darrieus-Landau Instability on the Velocity of Flames of Finite Thickness*, 13th Symposium on Combustion and Detonation, Chernogolovka, Russia, Feb. 7–11, 2005.
4. V. **Akkerman**, V. Bychkov, *Weakly Turbulent, Premixed Flames & Darrieus-Landau Instability*, European Combustion Meeting, "ECM2005" Louvain-la-Neuve, Belgium, Apr. 3–6, 2005.
5. V. **Akkerman***, V. Bychkov, A. Petchenko, *Accelerating Flames in Tubes with Non-slip at the Walls*, 4th Mediterranean Combustion Symposium "MCS-4", Lisbon, Portugal, Oct. 6–10, 2005.
6. V. Bychkov, V. **Akkerman***, A. Petchenko, *On the Theory of Turbulent Flame Velocity*, 4th Mediterranean Combustion Symposium "MCS-4", Lisbon, Portugal, Oct. 6–10, 2005.
7. A. Petchenko*, V. Bychkov, V. **Akkerman**, *Flame Propagation along the Vortex Axis*, 4th Mediterranean Combustion Symposium "MCS-4", Lisbon, Portugal, Oct. 6–10, 2005.
8. V. Bychkov*, V. **Akkerman**, M. Ivanov, *Numerical Modelling of Ethanol Combustion in S.I.-Engines*, Open Seminar "Alternative Fuels for Engines", Gothenburg, Sweden, Nov. 15, 2006.
9. V. **Akkerman**, V. Bychkov, A. Petchenko, L.-E. Eriksson, *Modeling of Turbulent Burning in Tubes*, European Combustion Meeting "ECM2007", Chania, Crete, Greece, Apr. 11–13, 2007.
10. V. Bychkov, V. **Akkerman**, A. Petchenko, L.-E. Eriksson, *Flame Acceleration and Explosion Triggering*, European Combustion Meeting "ECM2007", Chania, Crete, Greece, Apr 11–13, 2007.
11. A. Petchenko, V. Bychkov, V. **Akkerman**, L.-E. Eriksson, *Study of Flame-Acoustic Interaction*, European Combustion Meeting "ECM2007", Chania, Crete, Greece, Apr. 11–13, 2007.
12. V. Bychkov*, M. Modestov, V. **Akkerman**, *Hydrodynamic Instabilities in Laser Fusion, Astrophysical Plasma and Flames*, European Physical Society, Conference on Plasma Physics, Warsaw, Poland, July 2–6, 2007.
13. V. Bychkov*, V. **Akkerman**, A. Petchenko, L.-E. Eriksson, *Theory and Modeling of Flame Acceleration and Explosion Triggering in Tubes*, XXI International Colloquium "Dynamics of Explosions and Reactive Systems" (ISDERS), Poitiers, France, July 23–27, 2007.
14. V. **Akkerman***, V. Bychkov, R.J.M. Bastiaans, L.P.H. de Goey, J.A. van Oijen, L.-E. Eriksson, *Similarity and Difference of Flame-Flow Interactions in an Open Tube and in a Closed Chamber*, Fall Meeting of the Western States Section of the Combustion Institute, Sandia National Laboratories, Livermore, CA, USA, October 16–17, 2007.
15. D. Valiev*, V. Bychkov, V. **Akkerman**, L.-E. Eriksson, *Slowdown of Flame Acceleration because of Gas Compression*, 7th International Symposium on Hazards, Prevention and Mitigation of Industrial Explosions, St. Petersburg, Russia, July 7–11, 2008.
16. D. Valiev*, V. Bychkov, V. **Akkerman**, L.-E. Eriksson, M. Marklund, *Numerical Study of DDT due to Viscous Heating ahead of the Deflagration Front*, DNS and LES of Reacting Flows, Maastricht, the Netherlands, Oct. 22–24, 2008.

17. V.B. **Akkerman**, V.V. Bychkov, R.J.M. Bastiaans*, L.P.H. de Goey, J.A. van Oijen, L.-E. Eriksson, D. Valiev, M. Marklund, *DNS of Flow-Flame Interaction at Constant Volume Burning*, DNS and LES of Reacting Flows, Maastricht, the Netherlands, Oct. 22–24, 2008.

18. V. **Akkerman***, C.K. Law, *Explosion Triggering by Centrally-Ignited Outwardly-Propagating Accelerating Flames*, 6th US National Combustion Meeting, Ann Arbor, MI, USA, May 17–20, 2009.

19. V. **Akkerman***, C.K. Law, V. Bychkov, L.-E. Eriksson, *Analysis of Flame Acceleration Induced by Wall Friction in Open Tubes*, 6th US National Combustion Meeting, Ann Arbor, MI, USA, May 17–20, 2009.

20. V. **Akkerman***, C.K. Law, V Bychkov, D.M. Valiev, *The Effect of Compressibility on Flame Acceleration in Tubes*, 37th Fall Technical Meeting of the Eastern States Section of the Combustion Institute, College Park, MD, USA, Oct. 18–21, 2009.

21. V. **Akkerman***, C.K. Law, D.M. Valiev, V.V. Bychkov, L.-E. Eriksson, *Mechanism of Fast Flame Acceleration in Cylindrical Tubes with Obstacles*, 37th Fall Technical Meeting of the Eastern States Section of the Combustion Institute, College Park, MD, USA, Oct. 18–21, 2009.

22. V. Bychkov*, D. Valiev, V. **Akkerman**, L.-E. Eriksson, C.K. Law, *Ultra-Fast Mechanism of Flame Acceleration and Deflagration-to-Detonation Transition in Tubes with Obstacles*, 8th International Symposium on Hazards, Prevention and Mitigation of Industrial Explosions, Yokohama, Japan, Sept. 5–10, 2010.

23. D. Valiev, V. Bychkov*, V. **Akkerman**, L.-E. Eriksson, *Stationary Deflagration Regimes in the Process of Flame Acceleration and DDT*, 8th International Symposium on Hazards, Prevention and Mitigation of Industrial Explosions, Yokohama, Japan, 5–10 September 2010.

24. S. Chaudhuri*, V. **Akkerman**, C.K. Law, *Modification of Turbulent Combustion Regime Diagram and Turbulent Flame Speed by Darrieus-Landau Instability*, 7th US National Combustion Meeting, Atlanta, GA, USA, Mar. 20–23, 2011.

25. V. **Akkerman***, C.K. Law, *Analysis of Flame-Sound Interaction and Combustion Instability in the Premixed Segment of a Triple Flame*, 7th US National Combustion Meeting, Atlanta, GA, USA, Mar. 20–23, 2011.

26. V. **Akkerman***, C.K. Law, *Theory of Flame-Acoustic Interaction for Flame Propagation in Spherical Chamber*, 7th US National Combustion Meeting, Atlanta, GA, USA, Mar. 20–23, 2011.

27. V. Bychkov, D. Valiev, V. **Akkerman**, C.K. Law, *Flame Acceleration in Tubes with Obstacles in Deflagration-to-Detonation Transition*, 13th International Conference on Numerical Combustion, Corfu, Greece, Apr. 27–29, 2011.

28. V. Bychkov, P. Matyba, V. **Akkerman**, M. Modestov, D. Valiev, G. Brodin, C.K. Law, M. Marklund, and L. Edman, *Fast Electrochemical Doping due to Front Instability in Organic Semiconductors*, International Conference on Organic Electronics, Rome, Italy, June 22–24, 2011.

29. V. Bychkov, D. Valiev, V. **Akkerman**, C.K. Law, *Gas Compression Moderates Flame Acceleration in Deflagration-to-Detonation Transition*, 7th Mediterranean Combustion Symposium "MCS-7", Chia Laguna, Cagliari, Sardinia, Italy, Sept. 11–15, 2011.

30. V. **Akkerman***, C.K. Law, *Analysis of Intrinsic Flamefront Instabilities in Response to External Acoustic Forcing*, 38th Fall Technical Meeting of the Eastern States Section of the Combustion Institute, Storrs, CT, USA, Oct. 9–12, 2011.

31. V. **Akkerman***, C.K. Law, *Darrieus-Landau and Rayleigh–Taylor Instabilities in Outwardly-Propagating, Accelerating Flames*, 38th Fall Technical Meeting of the Eastern States Section of the Combustion Institute, Storrs, CT, USA, Oct. 9–12, 2011.

32. V. **Akkerman***, C.K. Law, *Role of Intrinsic Flame Instability in the Excitation of Combustion Chamber Instability*, 64th Annual Meeting of the American Physical Society's Division of Fluid Dynamics, Baltimore, MD, USA, Nov. 20–22, 2011.

33. V. **Akkerman***, C.K. Law, *Flame Dynamics and Consideration of Deflagration-to-Detonation Transition in Central Gravitational Field*, Oral Presentation, 34th International Symposium on Combustion, Warsaw, Poland, July 29 – Aug 3, 2012.

34. V. **Akkerman***, C.K. Law, *Evolution of Flame Acceleration in Micro-Tubes: Theory and Experimental Comparison*, Poster Presentation, 34th International Symposium on Combustion, Warsaw, Poland, July 29 – Aug 3, 2012.

35. V. **Akkerman***, C.K. Law, *Propagation of Expanding Laminar and Turbulent Flames in Free Space and Spherical Confinement*, Poster Presentation, 34th International Symposium on Combustion, Warsaw, Poland, July 29 – Aug 3, 2012.

36. M. Quinlan*, Y.J. Kim, M. Baroncelli, C. Dumitrache, B. Zinn*, V. Yang*, C.K. Law, V. **Akkerman***, *Theoretical, Numerical and Experimental Investigations of the Fundamental Processes Driving Combustion Instabilities in Liquid Rocket Engines,* AFOSR Space Propulsion and Power Program Review, Arlington VA, USA, Sept. 10–13, 2012.

37. V. **Akkerman***, V. Bychkov, C.K. Law, D. Valiev, *On Flame Acceleration and Deflagration-to-Detonation Transition in Tubes*, in mini-symposium "*Multi-Discipline Advances in Combustion Tubes*", 14th (SIAM) International Conference on Numerical Combustion, San Antonio, TX, USA, Apr. 8–10, 2013.

38. D. Valiev*, V. Bychkov, V. **Akkerman**, C.K. Law, *Stage of Quasi-steady Propagation in Premixed Flame Acceleration in Narrow Channels*, 8th US National Combustion Meeting, Park City, UT, USA, May 19–22, 2013.

39. V. **Akkerman***, V. Bychkov, M. Kuznetsov, C.K. Law, D. Valiev, M.-H. Wu, *Fast Flame Acceleration and Deflagration-to-Detonation Transition in Smooth and Obstructed Tubes, Channels and Slits*, 8th US National Combustion Meeting, Park City, UT, USA, May 19–22, 2013.

40. B. Demirgok*,**, V. **Akkerman**, *Theory of Flame Acceleration in Tubes due to Wall Friction: Intrinsic Limitations and Accuracy*, 8th US National Combustion Meeting, Park City, UT, USA, May 19–22, 2013.

41. V. **Akkerman***, S. Chaudhuri, C.K. Law, *Evolution and Morphology of Globally-spherical and Bubble-shaped Accelerating Deflagration Fronts: Stability, Dynamics & Possibility of Detonation Triggering*, 8th US National Combustion Meeting, Park City, UT, USA, May 19–22, 2013.

42. V. **Akkerman***, *Combustion Tubes: Various Mechanisms of Flame Acceleration & Deflagration-to-Detonation Transition* (Invited Lecture), International Workshop on Detonation for Propulsion, Tainan, Taiwan, July 25–28, 2013.

43. V. **Akkerman***, *Combustion Intensification & Deflagration-to-Detonation Transition in Tunnels, Channels and Tubes*, International Workshop on Fire Research, Kanpur, India, 07/31–08/01, 2013.

44. B. Demirgok*,**, D. Valiev, V. **Akkerman**, *Effect of Thermal Expansion on Flame Propagation in Channels with Nonslip Walls: Numerical and Analytical Consideration*, 39th Fall Technical Meeting of the Eastern States Section of the Combustion Institute, Clemson, SC, USA, Oct. 13–16, 2013.

45. B. Demirgok*,**, O. Ugarte, D. Valiev, V. Bychkov, M.H. Wu, V. **Akkerman**, *Analysis of Ethylene-Oxygen Combustion in Micro-Pipes*, 39th Fall Technical Meeting of the Eastern States Section of the Combustion Institute, Clemson, SC, USA, Oct. 13–16, 2013.

46. B. Demirgok*,**, V. **Akkerman**, *Analytical and Computational Study of Flame Acceleration due to Wall Friction in Combustion Tubes and Channels*, 66th Annual Meeting of the American Physical Society's Division of Fluid Dynamics, Pittsburgh, PA, USA, Nov. 24–26, 2013.

47. O. Ugarte*,**, V. **Akkerman**, *Acoustic Coupling to Kelvin-Helmholtz Instability at Discontinuity Layer of Zero and Finite Thickness and Viscosity*, 66th Annual Meeting of the American Physical Society's Division of Fluid Dynamics, Pittsburgh, PA, USA, Nov. 24–26, 2013.

48. B. Demirgok*,**, O. Ugarte**, D. Valiev, V. **Akkerman**, *Effect of Thermal Expansion on Flame Propagation in Channels with Nonslip Walls*, Oral Presentation, 35th International Symposium on Combustion, San Francisco, CA, USA, Aug. 3–8, 2014.

49. O. Ugarte**, B. Demirgok**, V. **Akkerman***, D. Valiev, V. Bychkov, *Effect of Wall Heat Losses on Flame Propagation in Micro-Chambers*, Poster Presentation, 35th International Symposium on Combustion, San Francisco, CA, USA, Aug. 3–8, 2014.

50. B. Demirgok**, H. Sezer, V. **Akkerman***, *Flame Acceleration due to Wall Friction: Accuracy and Intrinsic Limitations of an Analytical Formulation*, Poster Presentation, 35th International Symposium on Combustion, San Francisco, CA, USA, Aug. 3–8, 2014.

51. O. Ugarte**, B. Demirgok**, V. **Akkerman***, D. Valiev, S. Chakravarthy, A. Kumar, V. Bychkov, *Propagation and Morphology of Premixed Flame Fronts in Obstructed Tubes*, Poster Presentation, 35th International Symposium on Combustion, San Francisco, CA, USA, Aug. 3–8, 2014.

52. V. **Akkerman***, B. Demirgok**, O. Ugarte**, D. Valiev, C.K. Law, V. Bychkov, M.H. Wu, *Analysis of Ethylene-oxygen Combustion in Micro-pipes*, Poster Presentation, 35th International Symposium on Combustion, San Francisco, CA, USA, Aug. 3–8, 2014.

53. V. **Akkerman***, A. Rangwala, V. Bychkov, *Towards Predictive Scenario of Methane and Coal Dust Explosion in a Mining Accident*, Poster Presentation, 35th International Symposium on Combustion, San Francisco, CA, USA, Aug. 3–8, 2014.

54. V. **Akkerman***, A. Rangwala, *Dust and Gas Explosion Model for Methane Accidents in Coal Mines*, 31st International Pittsburgh Coal Conference, Pittsburgh, PA, USA, Oct. 6–9, 2014.