

List of Publications on Hydrogen Behavior

1. Chan C.K. et. al. (expert panel) , "State-of-the-Art Report on Flame Acceleration and Deflagration to Detonation Transitionm in Nuclear Reactor Safety", NEA/CSNI/R(2000)7, 2001.
2. Chan C.K. and L. Wojcichowski, "Code Package for Analysing the Potential for DDT in Post-Accident Containment", Proceeding to IAEA meeting on Implementation of Hydrogen MitigationTechniques and Filtered containment Venting, Cologne, June 18-22 , 2001.
3. Chan C.K. , J. Loesel Sitar and G.W. Koroll, "Reactor Safety Hydrogen Research In Canada", Proceeding to IAEA meeting on Implementation of Hydrogen MitigationTechniques and Filtered containment Venting, Cologne, June 18-22 , 2001.
4. Koroll, G., R.K. Kumar and C.K. Chan, "Combustion Behaviour in the Moderator Cover Gas", Proceeding to the Canadian Nuclear Society Annual Conference, June, 1998.
5. Chan, C.K. and W. Dewit, "Deflagration to Detonation Transition in End Gases," 26th Symposium (Int.) on Combustion, Vol. II pp. 2679-2684, 1998.
6. Kumar, R.K. and E.M. Bowles, "Vented Combustion of Hydrogen-air-steam Mixtures in a Large Volume Filled with Obstacles", ASME/ETCE, Emerging Energy Technology conference, Houston, 1998.
7. Chan, C.K., J.L. Sitar, R. Beauvias and F. Mayinger, "Modeling Maximum Flame Speeds", Nuclear Engineering and Design, 166 463-469, 1996.
8. Chan, C.K., W. Dewit and G.W. Koroll, "Criteria for Transition from Deflagration to Detonation in H₂-air-steam Mixtures", Heat and Mass Transfer in Severe Reactor Accidents, pp. 372-379, 1996.
9. Dewit W.A., G. W. Koroll, J. Loesel Sitar, W.R.C. Graham and C. Knight, "Hydrogen Recombiner Development at AECL", NEA/CSNI/R(96)8, P. 297, 1996.
10. D.R. Whitehouse, C.K. Chan and D.R. Greig, "Combustion on Non-uniform Hydrogan-air Mixtures", NEA/CSNI/R(96)8, P. 449, 1996.
11. Chan C.K. and A. Guerrero, "The Structure of Horizontal Hydrogen Steam Diffusion Flame, NEA/CSNI/R(96)8, P. 461, 1996.
12. Loesel Sitar, J., C.K. Chan, F. Torchia and A. Guerrero, "Laminar Burning Velocities of Near-Flammability Limit H₂-air-steam Mixtures", proceeding to the 16th CNS Conference, Saskatoon, June 5-7, 1995.
13. Chan, C.K., "Collision of a Shock Wave with Obstacles in a Combustible Mixture", Combustion and Flame, Vol. 100, No.1/2, p. 341, 1995.

14. Kumar, R.K. and G.W. Koroll, "Ignitability fo Hydrogen/Oxygen/Diluent Mixtures in the Prescence of Hot Surfaces", Nuclear Safety, Vol. 36, No. 1 1995.
15. Koroll, G.W., A.P. Muzumdar, M.A. Cormier and N.G. Hunt, "Hydrogen Management in CANDU Reactors" OECD/CSNI Specialist Meeting on Selected Containment Severe Accident Strategies, Stockholm, 1994.
16. Koroll, G.W., R.K. Kumar and E.M. Bowles, "Burning Velocities of Hydrogen Air Mixtures", Combustion and Flame, 94: 330-340, 1993.
17. Kumar, R.K. and G.W. Koroll, "Hydrogen Combustion Mitigation Concepts for Nuclear Reactor Containment Buildings", Nuclear Safety, Vol. 33 No. 3, 1992.
18. Kumar, R.K., G.W. Koroll, W.A. Dewit, E.L. Hallin, D.M. Skopik and H.S. Caplan, "Ignition of Hydrogen-Oxygen-Diluent Mixtures in an Ionizing Radiation Field", Combust. Sci. and Tech. Vol. 83 pp. 145-159, 1992.
19. Kumar, R.K. and G.W. Koroll, 'Combustion Mitigation in Hydrogen/air Mixtures by Dilution and Depletion", ASME PD-Vol. 41, Emerging Energy Technology, 1992.
20. Chan, C.K. and K.N. Tennankore, "A State-of-the-art Report on Flame Acceleration and Transition to Detonation in Hydrogen air-steam Mixture", AECL-10459, 1991.
21. Koroll, G.W., D.R. Greig, W.A. Dewit, R.K. Kumar and E.L. Hallin, "Ignition Behaviour in Simulated Moderator Cover Gas Atmospheres", CAN/CNS Annual Conference, Saskatoon, 1991.
22. Koroll, G.W. and R.K. Kumar, "Isotope Effects on the Combustion Properties of Deuterium and Hydrogen", Combustion and Flame, 84: 154-159, 1991.
23. Chan, C.K., "Effect of Confinement on Transition from Deflagration to Detonation" Proceeding to the 2nd International Conference on Containment Design and Operation, October 14-17, Toronto, 1990.
24. Kumar, R.K., "Detonation Cell Width in Hydrogen-Oxygen-Diluent Mixtures", Combustin and Flame 80: 157-169, 1990.
25. Chan, C.K., D. Lau, P. Thibault and J.D. Penrose , "Ignition and Detonation Initiation by Shock Focussing", presented in 17th International Symposium on Shock Waves and Shock Tube, 1989. Also AIP Conference proceedings Vol.208, Current Topics in Shock Waves, p.161, 1990.
26. Chan, C.K., D. Lau and D. Radford, "Transition to Detonation Resulting from Burning in a Confined Vortex", 23rd Symposium (International) on Combustion, pp. 1797-1804, 1990.
27. Kumar, R.K. and E.M. Bowles, "Flame Acceleration in Hydrogen/air Mixtures in a Vertical Cylinder Filled with Obstacles", 2nd Int. Conference on Containment, Design and Operation, Toronto, 1990.
28. Kumar, R.K., "Ignition of Hydrogen-Oxygen-Diluent Mixture Adjacent to a Hot Nonreactive Surface", Combustion and Flame 75: 197-215, 1989.

29. Chan, C.K. and D.R. Greig, "The Structure of Fast Deflagration and Quasi-detonation", 22nd Symposium (International) on Combustion, The Combustion Institute, pp. 1733-1739, 1988.
30. Liu, D.D.S., and R. MacFarlane, "Laminar Burning Velocities of Hydrogen-air Hydrogen-air-steam Flames", Combustion and Flame, 49: 59-71, 1983.