

ZBOT Publications and Presentations

◆Publications

- C.H. Panzarella and M. Kassemi, "Analysis of Noncondensable Gas Effects on Evaporative and Condensive Mass Transfer Across a Liquid Vapor Interface," *Journal of Thermophysics and Heat Transfer*, 2007. (In Review)
- C.H. Panzarella and M. Kassemi, "Comparative Analysis of Zero-Boil-Off Pressure Control Strategies for Long Duration Cryogenic Storage in Space," *Journal of Spacecraft and Rockets*, 2007. (In Review)
- S. Barsi, M. Kassemi, "Numerical and Experimental Comparisons of the Self-Pressurization Behavior of an LH2 Tank in Normal Gravity," *Cryogenics*, 2007. (In Press)
- C. H. Panzarella & M. Kassemi, "Self-Pressurization of Spherical Cryogenic Tanks in Space," *Journal of Spacecraft and Rockets*, Vol. 42, No. 2, pp. 299-308, 2005.
- M. Kassemi, C.H Panzarella, "Ventless Pressure Control of Two-Phase Propellant Tanks in Microgravity," *Ana. of N.Y. Acad. Sci.*, Vol. 1027, pp. 511-528, 2004.
- C. H. Panzarella, M. Kassemi, "Pressure Control of Large Cryogenic Tanks in Microgravity," *Cryogenics*, Vol. 44/6-8, pp. 475-483, 2004.
- C.H. Panzarella, and M. Kassemi, "On the Validity of Purely Thermodynamic Description of Two-Phase Cryogenic Storage Tank," *Journal of Fluid Mechanics*, Vol 484, pp.136-148, 2003.

◆Referred Conference Proceedings

- S. Barsi, C.H. Panzarella, M. Kassemi, "An Active Vapor Approach to Modeling Pressurization in Cryogenic Tanks," AIAA2007-5553. Presented at the 43rd AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Cincinnati, OH 2007
- S. Barsi, M. Kassemi, "Validation of Tank Self-Pressurization Models in Normal Gravity," AIAA 2007-952, Presented at the 45th AIAA Aerospace Sciences Meeting. Reno, NV 2007.
- M. Kassemi, "ZBO Pressure Control for Cryogenic Storage Tanks," Paper-HLS172, Habitation 2006, Orlando, Florida, February 2006.
- S. Barsi and M. Kassemi, "A Numerical Study of Tank Pressure Control in Reduced Gravity," AIAA-2006-0936, The 44th AIAA Aerospace Conference, Reno, Nevada, January 2006.

- S. Barsi and M. Kassemi, “Reduced Gravity Simulations of Storage Tank Self-Pressurization,” Paper-13624, Multiphase Flow in Space Exploration Systems, Earth and Space 2006 Conference, Houston Texas, March 2006.
- E. Rame, R. Balasubramanian, M. Kassemi, J. Kizito, “Two Phase Flow in Life Support Systems,” Paper-13692 Multiphase Flow in Space Exploration Systems, Earth and Space 2006 Conference, Houston Texas, March 2006.
- S. Barsi, M. Kassemi, C.H. Panzarella, JID Alexander, “A Tank Self-Pressurization Experiment using a Model Fluid in Normal Gravity,” AIAA paper 2005-1143, The 43rd AIAA Aerospace Meeting, Reno, Nevada, January 2005.
- D. Chato, J.I. Hochstein, M. Kassemi, “Approaches to Validation of Models for Low Gravity Fluid Behavior,” AIAA 2004-1150, 42nd AIAA Aerospace Meeting, Reno, Nevada, January 2004.
- C. H. Panzarella, M. Kassemi, “Zero boil-off Pressure Control of Large Cryogenic Tanks in Microgravity,” Proceedings of the 20th Space Cryogenics Conference, Girdwood, Alaska, 2003.
- C. H. Panzarella, M. Kassemi, “A Numerical Investigation of Two-Phase Transport Effects on the Pressurization of Cryogenic Storage Tanks,” 41st AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, AIAA 2003-1159, 2003.
- M. Kassemi, C.H Panzarella, “ZBO Pressure Control of Two-Phase Propellant Tanks in Microgravity,” Proceedings of the Microgravity Transport Processes in Fluid, Thermal, Biological and Materials Sciences III, ECI: MTP-03-28, Davos, Switzerland, 2003.
- M. Kassemi, “CFD Developments Required for Design and Optimization of Space-Based Cryogenic Storage Tanks,” (Invited Keynote Paper), Proceedings of ASME FEDSM’01, ASME 2001 Fluids Engineering Meeting, New Orleans, May 2001.