

Selected Papers

Work done at Cleveland State University and NASA Glenn Research Center

Most of the funding by NASA

Coatings

1. "Ti-B-N and Ti-B-O Scratch Resistant Weakly Conductive Transparent Coatings for Aerospace Applications," Mehmet Ersoy and Paul D. Hambourger, 51st Annual Technical Conference, Society of Vacuum Coaters, Chicago, IL; April 21-24, 2008. **(Refereed)**.
2. "Durable Coating Technology for Lunar Dust Protection and Mitigation, " Juan H. Agui, Paul Hambourger, Jordan Wirfs-Brock, John M. Griffin, Jason T. Hindall, and Ashraf Morgan, Paper # 2006-01-2205, 36th International Conference on Environmental Systems, Norfolk, Virginia, July 17-20, 2006. **(Refereed)**, selected for publication in *SAE Transactions*).
3. "ITO-MgF₂ Film Development for PowerSphere Polymer Surface Protection," Paul D. Hambourger, Thomas W. Kerslake, and Deborah L. Waters, 2nd International Energy Conversion Engineering Conference, Providence, Rhode Island; August 16-19, 2004. **(Refereed)**. (*Thomas Kerslake wrote most of this paper. I wrote part of it and presented it*).
4. "Transparent, Weakly Conductive Films for Space Applications," John Griffin, Ashraf Morgan, and Paul D. Hambourger, Fall 2004 Meeting, American Physical Society Ohio Section; Oakland, MI; October 16, 2004. (*Written and presented jointly by Messrs. Griffin and Morgan*).
5. "Transparent Arcproof Protective Coatings – Performance and Manufacturability Issues", John Griffin, Nischala Uppala, Jyothi Vemulapalli, and Paul D. Hambourger, accepted for 7th International Conference – Protection of Materials from Space Environment, Toronto, Canada; May 10-13, 2004. **(Refereed)**.
6. "Slightly Conductive Transparent Films for Space Applications – Manufacturability and Durability", N. Uppala, J. Vemulapalli, and P.D. Hambourger, 47th Annual Technical Conference, Society of Vacuum Coaters, Dallas, TX; April 26-29, 2004. **(Refereed)**.
7. "High Resistivity Transparent/Conductive Coatings for Space Applications," Thomas Cashman, Rikako Demko, Nischala Uppala, Jyothi Vemulapalli, Bryan Welch, and Paul D. Hambourger, *Vacuum Technology & Coating*, September 2003, p. 38. **(Requested by the publisher)**.
8. "Photoconductivity in Transparent Arcproof Coatings," T. Cashman, J. Kaur, L. K. Muhieddine, M. Shanbhag, S. H. Ubaid, Bryan Welch, Jyothi Vemulapalli, and P. D. Hambourger, 6th International Conference – Protection of Materials from Space Environment, Toronto, Canada; May 1-3, 2002.

Fiber/Insulator Composites

9. "Electrical Percolation Effects in Uniaxial Graphite Fiber/Epoxy Composites," P. D. Hambourger, M. C. Wright, M. R. Thiel, and M. Kaufman, *Bulletin of the American Physical Society*, Vol. 37, p. 553 (1992).
10. "Interfiber Electrical Conduction in Graphite Cloth/Epoxy Composites," M. R. Thiel, M. Gibberman, J. Marino, Melissa E. Slabe, P. D. Hambourger, and James R. Gaier, *Bulletin of the American Physical Society*, Vol. 36, p. 928 (1991).
11. "Magnetoresistance of Graphite Fiber/Insulator Composites - Influence of Fiber Microstructure," P. D. Hambourger and S. E. Paulin, *Bulletin of the American Physical Society*, Vo.. 32, p. 482 (1987).
12. "Transverse Electrical Resistivity of Uniaxial Graphite Fiber-Resin Aerospace Composites," P. D. Hambourger, S. E. Paulin, J. R. Gaier, and D. A. Jaworske, *Proceedings, 1987 Spring Meeting, Materials Research Society*.