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December 20, 2006

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To: Sabbatical Leave Committee
Prof. Kurt Paterson

From: Warren F. Perger

Subject: Proposal for sabbatical

The primary goal of my sabbatical was to publish articles arising from a collaboration with the Institute for Shock Physics, Washington State University. This has been accomplished and listed below are the articles in print written during that sabbatical. Also, a proposal was written during the sabbatical year and has been funded, a 5-year grant sponsored by the Office of Naval Research (a MURI grant) with MIT and Washington State.

Articles published:

References

- [1] W. F. Perger, S. Vutukuri, Z. A. Dreger, Y. M. Gupta, and Ken Flurchick. First-principles vibrational studies of pentaerythritol crystal under hydrostatic pressure. *Chem. Phys. Lett.*, 422:397–401, 2006.
- [2] W. F. Perger, Jijun Zhao, J. M. Winey, and Y. Gupta. First-principles study of pentaerythritol tetranitrate crystal under high pressure: vibrational properties. *Chem. Phys. Lett.*, 428(4-6):394–399, 2006.
- [3] Muhammad I. Bhatti and Warren F. Perger. Solutions of the radial Dirac equation in a B-polynomial basis. *J. Phys. B.: At. Mol. Opt.*, 39:553–558, 2006.