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Abstract

Title: Multifunctional Materials Research Interests

Recent advances in the nanoscale processing and integration of materials have resulted in the development of entirely new classes of optical materials, including photonic band-gap crystals and negative index materials. Related research on micro-resonator systems may well lead to further surprises. The payoff for the military could be great in terms of improved optical systems for target detection and munitions guidance. A brief discussion of the state-of-the-art of multifunctional materials and micro-optics fabrication (from an ARO perspective) will be provided to stimulate further discussions.

Biography

DR. PRATER joined the Army Research Office (ARO) in 1988. He is currently a program manager in the Materials Sciences Division overseeing research in the Physical Properties of Materials. In addition, since 1989, he has been an adjunct professor at North Carolina State University involved in research on wide bandgap semiconductor materials. For 10 years prior to arriving at ARO Dr. Prater was in the Coatings and Advanced Materials Section of the Materials Department at the Pacific Northwest Laboratories where he was primarily involved in the high-rate sputter deposition and testing of magnetic films and protective coatings. Dr. Prater received his Ph.D. in Metallurgy and Materials Science from the University of Pennsylvania in 1978.

HONORS:

Elected to Phi Beta Kappa at Middlebury College, 1973.

Awarded the Yerger Fellowship at the University of Pennsylvania for excellence in academics, 1975.

Jacquet-Lucas Award Corecipient for excellence in metallography (ASM and IMS), 1984.

Issai Lefkowitz Award (ARO) for outstanding scientific research achievements in Army research, 1997.