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“Publishing the Proceedings of 6th Workshop on High Energy Density and High Power
RF (RF 2003)”

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The 6th Workshop on High Energy Density and High Power RF (RF 2003) was held from June 22 to June 26 at the Coolfont Resort and Conference Center in Berkeley Springs, West Virginia. The Workshop was hosted by the Institute for Research in Electronics and Applied Physics (IREAP) of the University of Maryland, College Park and by the Naval Research Laboratory, Washington DC. As its name implies this was the sixth in a series of biennial workshops devoted to exchanging information and ideas on high power microwave sources and components. The applications addressed included particle accelerators, radar, HPM, space exploration, neutron sources and plasma heating and current driven in controlled thermonuclear fusion research.

Participation was by invitation and 75 participants presented a total of 55 papers. In addition to the scheduled presentations there was an animated and sustained interaction among the participants who came from the U.S., Germany, Russia, Israel and Japan. Participation by national research laboratories, private industry and universities was well balanced. Noteworthy was the strong participation by graduate students, bearing testimony to the good prospects for the future of research and development activity on high power microwave systems.

Invited talks describing the RF systems for future linear colliders at DESY in Germany and at SLAC in the U.S. kicked off the Workshop and were especially stimulating because of the widely differing technical approaches taken by those two institutions. In addition, excellent invited talks were presented which were pertinent to diverse areas of application including HPM, Deep Space Telemetry Tracking and Command, ECRH, the Spallation Neutron Source and advanced millimeter-wave radar. Another set of stimulating invited talks presented the state-of-the art in RF technology including multiple beam klystrons, 3-D design codes, RF pulse compressors, quasi-optical systems and plasma filled microwave generators. A special treat was an evening spent hearing reminiscences about the early days of microwave tube invention and development; Ned Birdsall told of his experiences in the U.S. and Yuriy Pchelninikov told of his experiences in the Soviet Union.

The General Chairman of RF 2003 was V.L. Granatstein. The Workshop Chairmen and Proceedings editors were G.S. Nusinovich and S.H. Gold. The present grant supported the publishing of the Proceedings of the Workshop. The Proceedings have been published by the AIP (AIP Conference Proceedings, volume 691) and contain 56 papers many of

which are of outstanding scientific quality. The Proceedings occupy 439 pages; copies were sent to all the Workshop participants and to other key people in the field. Five (5) copies of the Proceedings in book form were also sent to DOE Project Officer, Gerald Peters, as specified by the terms of this grant.