

AFOSR Programs in High Power Electromagnetics

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The Air Force Office of Scientific Research (AFOSR) takes an active role in the research of particularly promising technologies that may have a significant impact in the way the United States defends itself. High power electromagnetics is one of those technologies. This presentation is an overview of the basic research in this field managed by AFOSR and conducted at the Air Force Research Laboratory's Directed Energy Directorate and at universities and small businesses both in the U.S. and around the world. The program encompasses both narrowband vacuum electron devices as well as ultrawideband sources of microwave power, and it ranges in scope from component-level basic research on developing advanced dielectrics for capacitors to pushing the state-of-the-art in device modeling with end-to-end simulations of high power microwave systems. Through the management of this research program, AFOSR helps to identify, develop and transition key high power electromagnetic technologies to the military user in the field.