

Abstracts

Role of radar in microwaves

M. Skolnik. "Role of radar in microwaves." 2002 Transactions on Microwave Theory and Techniques 50.3 (Mar. 2002 [T-MTT] (50th Anniversary Issue)): 625-632.

Radar has been highly influenced by the technology of microwaves, and likewise the development of microwaves has been significantly affected by the needs of radar. This paper addresses the relation between the two. It begins by briefly describing the introduction of microwave radar in World War II that was a major factor in the Allies achieving success in air defense and antisubmarine warfare. Microwave radar developments during and after the war are reviewed, along with a listing of current military and civilian applications. The dependence of modern radar on digital processing (with clock rates at microwave frequencies), high-power transmitters, and sophisticated antennas is discussed. The paper concludes by mentioning possible future directions for radar, and briefly describes two examples of future radar system opportunities. These are the ubiquitous radar and high-power transportable millimeter-wave radar based on the gyrokystron amplifier. The message is that microwaves and radar have mutually benefited from one another and that radar still offers many opportunities for microwave engineers to demonstrate their ingenuity and creativity.

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