

Abstract Submitted
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Characterization and Modeling of Behavior of Metamaterials as Shielding Against Directed Energy Weapons¹ RICHARD MATTISH, Bob Jones University, DRAGOSLAV GRBOVIC, Naval Postgraduate School — In modern warfare, high-power microwave (HPM) weapons are a very real threat. Metamaterials, materials that gain their properties from their geometry or design rather than from their constituent materials, have unique absorption properties that can be tailored to desired frequencies. Our research makes use of finite element modeling as well as experimental measurements to evaluate the performance of various shield geometries constructed out of metamaterials as shields against microwave radiation. Special emphasis is given to using experimental measurements to refine and validate the finite element model so that we can accurately predict the performance of new shield geometries.

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