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摘要: Stealth technology in terms of absorption of electromagnetic waves is a most valuable research area for military purposes. Development of radar absorbing materials (RAM) had been actively researched for a quite long time. In the RAM design, weight, thickness, absorptivity, environmental resistance and mechanical strength are the key factors and therefore development of RAM with low density and high strength is a challenging task. As an alternative, research interest has shifted towards radar absorbing structures (RAS) and metamaterial is one of the lucrative options for the development of RAS. Metamaterials are a new class of ordered composites that exhibit exceptional electromagnetic properties not readily observed in nature. Built from microstructure that is small compared to wavelength of operation, metamaterials can be designed with effective permittivity and permeability values that can be large or small or even negative at any selected frequency. In this review paper, we first place the stealth technology in brief and then concept of metamaterials in context of conventional materials. We then discuss reflection theory of metamaterials from stealth point of view. Next section deals with recent progress towards its application as electromagnetic absorbers and future prospects especially in higher frequency region.
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