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论文

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机翼涂敷吸波材料减缩雷达散射截面的研究

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STUDY ON REDUCTION OF RCS BY COATING RADAR ABSORBING MATERIAL FOR METAL WINGS

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摘要

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摘要 推导出了光滑凸体金属表面涂敷吸波材料时的后向雷达散射截面 (RCS)公式。对一系列涂敷吸波材料的金属平板进行了 RCS测试和理论计算。为提高计算精度,给出计算 RCS的工程修正方法。在此基础上,对机翼前后缘局部涂敷吸波材料。研究表明,机翼前后缘涂敷吸波材料可以有效地控制 RCS

关键词: 机翼 雷达散射截面 吸波材料 涂敷 隐身技术

Abstract: A formulation of radar cross section (RCS) for smooth convex metal objects coated with radar absorbing material (RAM) is derived. RCS has been measured and calculated for a series of metal planes coated with RAM. To improve accuracy of calculation, an engineering correction is given. Finally, the wing is coated with RAM at its leading edge and trailing edge. The result of study shows that RCS is efficiently controlled by coating RAM at the leading edge and the trailing edge of the metal wing.

Keywords: wing radar cross section radar absorbing material coating stealth technique

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