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翼面结构雷达散射截面（RCS）的测量与分析

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THE ANALYSIS AND MEASUREMENTS OF RADAR CROSS SECTION （RCS） OF SOME WING STRUCTURE MODELS

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摘要

影响飞机结构RCS值的因素很多。对于全金属结构的飞机,由于雷达波受到金属蒙皮的遮挡,其内部结构对飞机RCS的影响不大,几何外形及蒙皮材料的电磁特性是主要的影响因素,但对于在机体结构中采用了复合材料的情况就复杂多了。

关键词： 飞机 复合材料结构 雷达目标探测

Abstract:

In this report three glass fibre composite and aluminium wing structure models, and the measurements of RCS of these models are given.Based upon the results of the measurements, the conceptual analysis of the electromagnetic properties of these wing structure models are discussed. The purposes of this paper were to develop wing structural concepts of low radar cross section and to select the structural concept to assess the applicationof advanced materials such as glass fibre and carbon fibre composites for the aeroplane.

Keywords: aeroplane composite structure radar target

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