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飞机结构疲劳加速谱编制及损伤概率分布

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LOAD SPECTRUM DRAWING FOR THE ACCELERATIVE TEST OF THE AIRCRAFT COMPONENT AND THE DAMAGE PROBABILITY DISTRIBUTION

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摘要 | 参考文献 | 相关文章

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摘要 将实测载荷谱对飞机结构造成的损伤量作为随机变量，进行统计分析，确定出满足高置信度的中值原始载荷谱，然后，根据损伤等效原理，编制飞机结构加速试验谱。此加速试验谱保持与原始实测谱主波型态和载荷序列不变，只对二级波进行等损伤折算，它只有原谱的 1 / 5 左右

关键词： 疲劳 载荷谱 置信度 加速试验谱

Abstract: The damage quantity of the structure resulting from the actual load spectrum is treated in the statistical analysis as the random variable. So the representative actual load spectrum with the high confidence level can be determined. Then according to the principle of equivalent damage, the accelerative test load spectrum is drawn up. Drawing up the accelerative test load spectrum, the main wave shape and load order of the actual load spectrum remain unchanged. Only the 2 level wave is included in the equivalent damage calculation, and the test time is shortened.

Keywords: fatigue load spectrum confidence level acceler ative test load spectrum

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