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型材筋条含裂纹的加筋结构应力强度因子计算

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THE CALCULATION OF STRESS INTENSITY FACTOR FOR CRACKED SECTION IN A STIFFENED STRUCTURE

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摘要 本文根据型材结构的受力特性,采用一种适合型材结构有限元分析的型材棱边位移协调单元模型,计算了型材铆接加筋条含裂纹结构的3种Ⅰ型开裂类型应力强度因子,计算结果绘成曲线。

关键词： 加筋结构 协调单元 应力强度因子

Abstract： According to the analysis of the mechanical feature of the section structure, the author adopts a harmonious element model about the displacement in the bend line of section, which is applied to calculate the Stress Intensity Factor(SIF)of the section structure with the Finite Element Method. Compared with the analysis solution, the element model introduced in this paper is available. Then, in the case of the various rivet distance and rivet flexibility,the Stress Intensity Factor(SIF)for three cracked types about the structure rivet stiffened by cracked sections is calculated. The result of calculation is drawn in to a curve. Some conclusion are given from the result curve.

Keywords： stiffened struction harmonious element the stress intensity factor

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