عنوان مقاله:
Pitting Corrosion as the Main Cause of Crack Initiation in a Compressor Blade

محل انتشار:
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خلاصه مقاله:
In this paper, the cause of pitting, its effect on local stress and strain and initiation of the crack which starts from the base of corrosion pit are investigated. The influence of several corrosion pits on the failure of several first - row rotating blades of a few axial-flow compressors which were fractured under fatigue mechanism was studied. The geometry of pits is determined by scanning electron microscopy (SEM) and a finite element model is built to simulate their behaviour. SEM results show that pits forms on the surface of the blade and one of them is the main origin of the crack initiation. Stress and strain distribution around this pit is calculated in order to clarify their effect on crack initiation.

کلمات کلیدی:
pitting corrosion, crack initiation, compressor blade, finite element simulation