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STRESS INTENSITY FACTORS FOR A POLYGONAL CRACK

Abstract

Various celestial bodies contain cracks. Also, cracks can be in the skin of aircraft, while their growth is one of the main mechanisms for the destruction of structures. This paper presents the study of polygonal cracks. The stress intensity factor was chosen as the quantity under study. The following methods were used to model this process: the three-dimensional method of discontinuous displacement boundary elements, in which the stress and displacement field is a finite series of expansions of analytically found functions, and the two-dimensional boundary element method. dimensional method of discontinuous displacements, which takes into account the rotation of a growing crack along the stress field at the tip.