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The problem of internal and edge cracks in an orthotropic strip. ASME Journal of Applied Mechanics 44, 237-242. MATH Google Scholar. Surface and internal crack problems in a homogeneous substrate coated by a graded layer. Ph.D. Dissertation, Department of Mechanical Engineering and Mechanics, Lehigh University, Bethlehem, PA, U.S.A. Google Scholar. The X-IGA for dynamic cracked isotropic/orthotropic media is described in Section 3. The DSIFs are derived by using the contour interaction integral technique in Section 4. Section 5 presents the numerical results obtained via X-IGA and compares the results with other solutions. Finally, conclusions and prospects are drawn in Section 6.

2. NURBS-Based Isogeometric Analysis. In the CAD, a two-dimensional NURBS surface can be constructed as [35]. where N_i is the NURBS basis function; and \mathbf{P}_i . There is computer realization of this method with investigation of some diffraction problems in isotropic elastic medium [13,17]. From the equation (14) follows that on fronts of shock waves the jump of the heat flow is proportional to a jump of a normal component to the front of velocity of displacement of the medium. These waves propagate in medium and diffract at boundary surface. On waves' fronts the conditions on jumps (12)- (14) are satisfied.

Â In recent years, non-stationary dynamic problems involving anisotropic elastic bodies have attracted much attention from researchers because a number of important applied problems need be solved. Read more. Article. Singular perturbation in bending problems for orthotropic plates.