

Ciarlet, Philippe G.; Le Dret, Hervé; Nzenywa, Robert

Modélisation de la jonction entre un corps élastique tridimensionnel et une plaque. (Modeling of the junction between a three-dimensional elastic body and a plate). (French)

Zbl 0632.73015

C. R. Acad. Sci., Paris, Sér. I 305, 55-58 (1987).

The paper proves a theorem which shows that the solution of a three-dimensional problem of linear elasticity-posed on a domain consisting of (i) a plate of thickness 2ϵ , the Lamé constants of its material varying as ϵ^{-3} ; and (ii) a solid whose Lamé constants are independent of ϵ - converges with ϵ approaching 0 to the solution of a variational problem posed simultaneously on a three-dimensional open set with a slot and a two-dimensional open set.

Reviewer: S.K.Lakshmana Rao

MSC:

74S30 Other numerical methods in solid mechanics (MSC2010)

74B20 Nonlinear elasticity

74K20 Plates

Cited in **3** Reviews
Cited in **14** Documents

Keywords:

variable Lamé constants; uniform Lamé constants; three-dimensional problem