

عنوان مقاله:

T-complete Functions for Thin and Thick Plates Bending Problems' analysis

محل انتشار:

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خلاصه مقاله:

The derivation of a functional system that solves the problem under analysis is the basis of the Trefftz method. This functional system must be complete. If the condition of completeness is not satisfied the solving process may lead to wrong results. This Paper presents Trefftz functional systems for thin and thick plates bending problems analysis. The T-complete set is derived by solving the homogeneous equations of the problem. This can be done with the method of separation of variables. For each separation parameter, we deal with ordinary, linear differential equations so the demanded number of fundamental solutions is equal to the order of equation. The Kirchhoff plate equation is a fourth order differential equation, whereas the Reissner plate differential equation is set of fourth – and second – order equations. In this T-complete set, some of function may be excluded physical reasons, e.g., trial function tends to infinity at a certain point whereas a finite result is expected

کلمات کلیدی:

Trefftz functional systems, T-complete sets, Kirchhoff and Reissner plates

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