

Liszka, T. J.; Duarte, C. A. M.; Tworzydło, W. W.
hp-meshless cloud method. (English) [Zbl 0893.73077](#)
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Summary: A methodology to build discrete models of boundary value problems (BVP) is presented. The method is applicable to arbitrary domains and employs only a scattered set of nodes to build approximate solutions to BVPs. A version of moving least-square interpolation and collocation method are used to discretize BVP equations, which results in a truly meshless method (i.e. without a background mesh of integration points). h - and p -adaptive strategies are tested and very good convergence of the method was observed. Several engineering applications of the method are presented.

MSC:

74S30 Other numerical methods in solid mechanics (MSC2010)

Cited in **112** Documents

Keywords:

boundary value problems; moving least-square interpolation; collocation method; convergence

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