

On the reduction methods of structural finite element models

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ABSTRACT

In this paper, we introduce our recent studies on the reduction methods of structural finite element models, which include error estimators for the classical reduction methods, high-performance dynamic reduction methods, and the automated static condensation method. We focus on developing numerical procedures to provide significantly accurate reduced models with computational efficiency. Using several large practical engineering problems, the performance of the proposed methods are demonstrated in terms of its solution accuracy and computational efficiency. We here summarize the related formulations and numerical results published already.

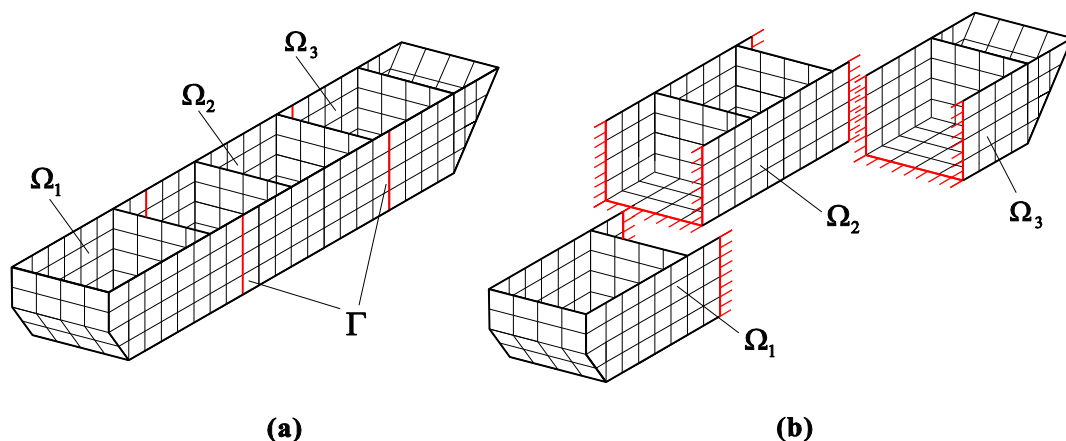


Fig. 1 Interface handling in the CB method:
(a) Partitioned structure, (b) Fixed interface boundary treatment (Boo et al 2016)

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