SOFTWARE SUPPORT FOR SOLVING THE MECHANICAL PROBLEM OF BEAM BUCKLING

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Abstract (English): *For the purpose of solving problems in mechanics, such as beam buckling, it is necessary to use and develop complex software solutions. This paper presents the evolution of software architecture used for multi-dimensional parametric modeling of beam buckling, based on the finite strip method. The re-engineering of the software architecture for model variation has been described with the goal of supporting the variation across four mutually independent dimensions, while discussing the constraints of the starting solution and the advantages of the target solution. The presented software solutions and their source code have been made publicly available under the BSD Open Source license.*

Apstrakt (Serbian): *Za potrebe rešavanja problema u mehanici, kao što je problem izvijanja stubova, neophodna je upotreba i razvoj složenih softverskih rešenja. U ovom radu je predstavljena evolucija arhitekture softvera za multidimenzionalnu varijaciju parametara prilikom modeliranja problema izvijanja stubova primenom metoda konačnih traka. Opisan je reinženjering arhitekture softvera za varijaciju modela tako da se podrži varijacija u četiri međusobno nezavisne dimenzije, uz diskusiju ograničenja polaznog rešenja i prednosti ciljnog rešenja. Predstavljeno softversko rešenje i njegov izvorni kod su javno dostupni pod BSD Open Source licencom.*

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