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Izvorni znanstveni članak

#### Finite volume method for analysis of stress and strain in wood

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#### Sažetak

This paper presents a numerical method (the finite volume method) for analysing stress and strain in wood as a solid body. The method is very simple and easy to use. It starts from an integral form of the equations governing momentum, heat and mass balance. Second-order in both time and space finite volume discretisation is performed using the corresponding constitutive relations, resulting in a set of algebraic equations, which are then solved by an efficient segregated iterative procedure. In order to demonstrate the method's possibilities, stress and deformation are analysed in a loaded chair and in wood samples during the process of wood drying and steaming.

#### Ključne riječi

finite volume method; chair; wood; drying; steaming

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