

English summary

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Mathematical model of fitness running

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Summary. Top-athletes are in focus of sport research in general. However, the simple mathematical model of running due to Tuokko is applicable to the study of the results of an occasional fitness runner.

Key words: model of running, energy balance, limit between anaerobic and aerobic running, aerobic speed

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Some remarks on the use of force method in the analysis of framed structures

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Summary. Force method based on connecting moments is a versatile analysis method for statically indeterminate geometrically linear non-sway frames. In the force method the resulting flexibility matrix has to be symmetric and positive definite. This article examines how the end moments have to be chosen to result in a symmetric flexibility matrix and discuss the stability condition. In addition, the elimination of end moments prior assembly of the global equation system in the case of a bar with one end fixed or elastically supported is considered.

Key words: force method, symmetric flexibility matrix, stability analysis

