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Duality in non-linear programming for limit analysis of not resisting tension bodies (Article)

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Abstract

In the paper, one focuses on the problem of duality in non-linear programming, applied to the solution of no-tension problems by means of Limit Analysis (LA) theorems for Not Resisting Tension (NRT) models. In details, one demonstrates that, starting from the application of the duality theory to the non-linear program defined by the static theorem approach for a discrete NRT model, this procedure results in the definition of a dual problem that has a significant physical meaning: the formulation of the kinematic theorem.

Author keywords

Duality; Limit analysis; Non-linear programming; NRT model; Operational research; Structural analysis

Indexed keywords

Engineering controlled terms: Mathematical models; Nonlinear programming; Operations research; Problem solving

Engineering uncontrolled terms: Limit analysis (LA); NRT model

Engineering main heading: Structural analysis

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Keywords

structural analysis; operational research; NRT model; duality; non-linear programming; limit analysis;

Language

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