CANDY statement of methods

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Abstract— This paper presents a detailed overview of CANDY, a catenary-pantograph dynamic interaction software. Authors describe the main key points of the formulation, focusing on its time-integration scheme, the pantograph and contact models as well as the solution of the initial equilibrium problem. Nonetheless one of the most important features of CANDY is its moving finite element mesh, which enables accurate results without excessive computational cost. The validation of the model against the European Standard EN 50318 and some conclusions and comments about the results of the benchmark are also included.

Index Terms— benchmark; catenary; pantograph; dynamic interaction; EN 50318; finite element method

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