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The Numerical Algorithm and Ill-posedness Research of A Load Identification Method in Time Domain

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Abstract

Based on the discretization of Duhamel integral, the matrix transfer relationship between load and response in time domain is deduced, and developed a kind of load identification method in time domain, steepest descent method is used to improve the ill-posedness of this identification algorithm, numerical simulation result of typical structure indicated the efficiency and validity, at different level of signal-to-noise ratio(SNR), the identification algorithm could still recognize the target load well. The research could be conveniently applied in FEM simulation.