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## Abstract

The aim of this work is to lay the groundwork for identifying digital mechanical parameters of materials with elastic. Most of the tests do not allow identifying these parameters automatically. The use of the finite elements of calculations for sizing works is thus limited by a poor understanding of the mechanical properties. In this context, it raises the issue of inverse analysis [1] [2]. From this information about the parameters of the laws of material behavior, is it possible to obtain the displacement field from in situ measurements and how does digital

technology obtain a determination of these parameters accurately and systematically? In this work we present a new approach by providing a formulation is easily used by treating the inverse problem. It is based on the finite element method, which, in a direct problem, gives the displacement field knowing the mechanical properties and an inverse problem gives the mechanical knowledge of the field trips. The resolution of the direct problem has yielded results. The latter is in agreement with the simulation code of commercial calculation. This allowed us to address the inverse problem with no understanding by offering an alternative identification using a database previously determined [3].

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## Index Terms

Computer Science

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**Keywords**

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