

Parallel computing for eddy current testing simulation

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Abstract

This paper deals with the parallelization of a finite element software dedicated to eddy current non-destructive testing (ECT). Three-dimensional ECT finite element simulations frequently require important computing resource. Nowadays dual-processors with hyper-threading technology is became a current computer architecture. Then it can be very useful to exploit this kind of machine architecture. This paper shows how OpenMP (Open Multi Processing) is a well adapted solution to parallelize without difficulty an ECT numerical program and to reduce significantly the computation time. An example based on an ECT code written in C++ language is presented to obtain a significant speed-up of the parallelized code.

topic area : C4 Non Destructive Testing