

High Performance Computational Mechanics in Marenostrom Supercomputer

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Computational Mechanics (CM) has become a scientific discipline in itself, being High Performance Computational Mechanics (HPCM) a key sub-discipline. The effort for the most efficient use of distributed memory machines provides a different perspective to CM scientists relative to a wide range of topics, from the very physics of the problem to solve to the numerical method used. Marenostrom supercomputer is the largest facility in Europe and the 5th in the world (top500.org - Spring 2007). This talk describes the research lines in the CASE Dpt. of the BSC applied to Aerospace, Bio-mechanics, Geophysics or Environment, through the development of its in-house CM code for complex coupled problems capable of running efficiently in large distributed memory facilities.