



***Institut de mathématiques des sciences computationnelles et ingénierie
MATHICSE***

***SEMINAIRE D'ANALYSE
NUMERIQUE***

➤ ***MERCREDI 15 décembre 2010 à 16h15 à la salle MA A110***

Prof. S. LOISEL (University of Heriot-Watt, united of Kingdom) donnera une conférence intitulée:

"Optimized domain decomposition methods that scale weakly"

In various fields of application, one must solve very large scale boundary value problems using parallel solvers and supercomputers. The domain decomposition approach partitions the large computational domain into smaller computational subdomains. In order to speed up the convergence, we have several "optimized" algorithm that use Robin transmission conditions across the artificial interfaces (FETI-2LM). It is known that this approach alone is not sufficient: as the number of subdomains increases, the number of iterations required for convergence also increases and hence the parallel speedup is lost. A known solution for classical Schwarz methods as well as FETI algorithms is to incorporate a "coarse grid correction", which is able to transmit low-frequency information more quickly across the whole domain. Such algorithms are known to "scale weakly" to large supercomputers. A coarse grid correction is also necessary for FETI-2LM methods. In this talk, we will introduce and analyze coarse grid correction algorithms for FETI-2LM domain decomposition methods.

Lausanne, le 1er décembre 2010
Prof. Assyr Abdulle
nk

Les séminaires qui ont lieu à la Section de Mathématiques sont annoncés sur Internet
(<http://memento.epfl.ch/cgi-bin/memento/select?memento=MATHS>)