



Séminaire Informatique Haute Performance au Campus Ter@tec
Département Sciences de la Simulation et de l'Information

Jeudi 17 Mai 2018
11h00 – durée : 45min

Bâtiment Ter@tec
Salle Valadon – RdC

Parallel data transposition in numerical algorithm for solving the Gross-Pitaevski equation.

Bogdan SATARIC, Faculty of Technical Sciences in Novi Sad Serbia

Main objective of my previous work was study and development of parallel algorithms for transposing distributed three-dimensional data structures, and description of their technical implementation in C/OpenMP/MPI hybrid programming paradigm. The developed three dimensional transposition algorithm has been applied in solving the nonlinear partial differential equation of the Schrodinger type (Gross-Pitaevskii equation) using Crank-Nicolson split-step method, for a system containing very large number of data points (wave-function values). Work overview will show the corresponding software development cycle, as well as results of validity tests and performance measurements obtained on a computer cluster.

Biography:

Bogdan Sataric enrolled into Faculty of Technical Sciences in Novi Sad Serbia in 2002, studying Computer science. Between 2005 and 2010 he worked first as intern and then as engineer in company RT-RK based in Novi Sad. In 2008 he received his master thesis for working on *Web based system for remote control of TV testing devices* while achieving 9.25/10 GPA. In 2009 he enrolled into PhD studies at the same faculty. From 2010 he started working first as teaching assistant and recently as assistant professor in courses Computer Architecture and Operating Systems. In 2017, he defended his PhD thesis named *Parallel data transposition in numerical algorithm for solving the Gross- Pitaevski equation*.

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