

INVITATION TO THE LECTURE

JANUARY 16, 2019

13:00

ROOM 213

COMMUNICATION HIDING AND AVOIDING IN THE CONJUGATE GRADIENT METHOD

Jakub Kružík

Institute of Geonics of the Czech Academy of Sciences, Ostrava

Due to the ever-increasing computational resources in the modern super-computers there is a renewed interest in high-performance variants of conjugate gradient and other Krylov subspace methods. One of the approaches to improve the scalability of these methods tries to either hide or avoid the latency of dot products. We briefly introduce and analyse pipelined CG (communication hiding) and s-Step CG (communication avoiding) algorithms. Numerical experiments from various sources will also be presented.