

De nouveaux algorithmes en algèbre linéaire minimisant les communications

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The cost of moving data in an algorithm can surpass by several orders of magnitude the cost of performing arithmetics, and this gap has been steadily and exponentially growing over time.

This talk will review work performed in the recent years on a new class of algorithms for numerical linear algebra that provably minimize communication.

The novel numerical schemes employed, the speedups obtained with respect to conventional algorithms, as well as their impact on applications in computational science will be also discussed.