

# Generalized Aitken-Schwarz method for Metacomputing

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The Aitken-Schwarz method is an acceleration technique for the Schwarz iterative scheme [1-2] that can provides parallel efficiency and numerical efficiency of elliptic solver on metacomputing architecture [3]. Such results have been obtained for the Poisson problem or weakly non linear perturbation of the Laplace operator on regular grids.

We will present in this talk recent results of the generalization of this numerical technique to domain decomposition with non matched grid or finite volume discretisation with general meshes.

## References

1. M. Garbey and D. Tromeur-Dervout: Two Level Domain Decomposition for Multiclusters, (plenary lecture), 12th Int. Conf. on Domain Decomposition Methods DD12, T. Chan & Al editors, pp.325-340, 2001.
2. M. Garbey and D. Tromeur Dervout: On some Aitken like acceleration of the Schwarz Method, to appear in Int. J. for Numerical Methods in Fluids.
3. N. Barberou, M. Garbey, M. Hess, M. Resh, T. Rossi, J. Toivanen and D. Tromeur Dervout: On the Efficient Meta-computing of linear and nonlinear elliptic problems, to appear in Journal of Parallel and Distributed Computing- special issue on grid computing.

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