Multi-Grid Radiation Transfer Revisited

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Multi-grid radiation transfer is an efficient method for solving a variety of radiation transfer problems, in particular problems of multiple spatial dimensions on scalar computers. This advantage is lost on massively parallel machines in which the computational grid can be directly mapped onto the processor array. Contrary to operator splitting methods, the convergence rate of the multi-grid method does not deteriorate with increasing spatial resolution of the computational grid. It is therefore well suited for high resolution problems, while performance at low resolution is not better than the best operator splitting methods.

There exists a considerable variety of basic multi-grid algorithms, which leave ample room for improvements of the few multi-grid radiation-transfer calculations that have been carried out so far. This poster is available under http://www.kis.uni-freiburg.de/~steiner/#sec6

References

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