



Development of a filtering integration scheme for numerical weather prediction and climate modelling

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A numerical time-integration scheme based on Laplace Transform integration (LTI) is under development. The scheme is ideal for application to systems such as the equations governing atmospheric flow. It faithfully simulates the low-frequency components of the motion, whilst eliminating spurious high-frequency gravity-wave components. We will outline the theoretical basis of the LTI scheme, and describe the results of test solutions of a simple system of coupled ode's. Simulations of shallow water flow using the LTI method in the STSWM model developed at NCAR will also be reviewed. Based on these results, it is planned to implement the LTI scheme in a fully baroclinic model.