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Qingshan Chen* (qchen3@fsu.edu), **Max Gunzburger** and **Todd Ringler**. *A new staggering approach towards shallow water simulations*. Preliminary report.

A new staggering approach towards constructing numerical schemes for geophysical flows is presented. The finite volume scheme constructed with this approach is shown to be able to faithfully simulate various wave modes inherent in the flow. In addition, the scheme for the nonlinear shallow water equations is also shown to be energy conserving. (Received September 21, 2011)