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**AN ESSENTIALLY NON-OSCILLATORY CRANK-NICOLSON
PROCEDURE FOR INCOMPRESSIBLE NAVIER-STOKES
EQUATIONS**

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We introduce an essentially non-oscillatory Crank-Nicolson(ENO-CN) scheme for the numerical solution of unsteady incompressible Navier-Stokes(NS) equations. ENO-CN utilizes the second-order upwind ENO scheme for the approximation of the convection term in the explicit step, while everything else is discretized by the central finite volume method. It has been numerically verified for NS equations in 2D that the resulting algorithm is non-oscillatory for a large range of Reynolds numbers and less dissipative than the conventional upwind methods and deferred correction methods. The new approach can be extended for 3D problems straightforwardly.

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