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Samuel N. Jator* (jators@apsu.edu), 601 College Street, Austin Peay State University,
Clarksville, TN 37044. *Numerical solution for parabolic equations by a hybrid method.*

We propose a hybrid method for the numerical solution of parabolic partial differential equations (PDEs) which is facilitated by the method of lines technique; where we discretize the space derivatives in such a way that the resulting system of ordinary differential equations is stable. We then discretize the time derivatives by the hybrid method. The method is self-starting, of fifth order in time and A-stable. The method is tested on some numerical examples. (Received September 18, 2010)