

1106-65-1302 **Josh Padgett*** (josh_padgett@baylor.edu) and **Qin Sheng**. *An Exploration of the Exponential Splitting*. Preliminary report.

Exponential splitting methods have been widely utilized for computing numerical solutions of partial differential equations. Different types of error estimates for the splitting procedures have been introduced and studied. In this talk, we will present an improved, new global error analysis for key exponential splitting formulations based on the commutativity of matrix exponentials resulting from different exponential splitting formulas. Computational examples will be provided to illustrate our theoretical results and expectations. (Received September 12, 2014)