Abstract Submitted
for the 4CF15 Meeting of
The American Physical Society

A Time-Decomposition Method and Applications to Physical Problems[1] HYUN LIM, Brigham Young Univ - Provo, JUNG-HAN KIMN, South Dakota State University — Physical phenomena such as wave propagation and singularity formation can be described with partial differential equations (PDEs). In many cases, such PDEs originate in physical, hyperbolic systems. Often, analytic solutions are not available. In this talk, we present a time-parallel numerical method to solve such PDEs with physically relevant results. The model problems we apply this method to are taken from relativistic quantum mechanical systems including the Klein-Gordon equation, the Dirac equation and the semilinear wave equation.

[1]A Time-Decomposition Method and Applications to Physical Problems

Hyun Lim
Brigham Young Univ - Provo

Date submitted: 09 Sep 2015 Electronic form version 1.4