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Coauthors: Dr. Clarence Burg

**IMPLEMENTATION OF THE SPACE TIME FINITE VOLUME
METHOD ON A ONE DIMENSIONAL WAVE MAKER**

MATTHEW BROZAK

The traditional finite-volume approach when applied to moving and deforming meshes requires two additional steps, which must be implemented consistently with the finite volume approach, to account for changes in the mesh by use of the Reynolds Transport Theorem and the Geometric Conservation Law. The space-time finite volume method (ST-FV) handles moving and deforming meshes seamlessly and naturally resulting in a solution that is spatially accurate and conservative. By implementing the ST-FV method on the St. Venant Equations, which are a one-dimensional simplification of the incompressible Euler equations, the results are both fully conservative and second order accurate. These properties are demonstrated by implementation of the ST-FV method on a virtual wave maker.

UNIVERSITY OF CENTRAL ARKANSAS
E-mail address: `matt_brozak_41@hotmail.com`