1093-35-42 **Mihaela Cristina Drignei*** (mdrignei@pitt.edu), Division of Physical and Comp. Sciences, University of Pittsburgh at Bradford, Bradford, PA 16701. *A numerical method for solving a Goursat-Cauchy boundary value problem.*

In this talk we discuss a method to construct numerically the solution-pair of a second order hyperbolic partial differential equation when two types of boundary conditions on a triangular domain are imposed. One set of boundary conditions refer to one set of the triangle's boundaries (we call them Goursat type), and the other set of boundary conditions both refer to the third boundary of the triangle (we call them Cauchy type). To solve numerically this boundary value problem we make a change of dependent variables and place a mesh on the triangular domain with lines that are the characteristic curves of the hyperbolic PDE. Then we shall integrate along the characteristic curves of the hyperbolic PDE in such a way that numerical values of the solution-pair will be produced at mesh nodes located on vertical lines. The calculations will proceed from the vertical boundary of the domain going backwards to the origin of the coordinate system, from one vertical line to another. The trapezoidal formula will be used for numerical integration. Numerical examples will be provided. (Received July 09, 2013)