

Meeting: 1005, Newark, Delaware, SS 10A, Special Session on Symmetry Methods for Partial Differential Equations

1005-35-52 **Danny Arrigo*** (darrigo@uca.edu), Department of Mathematics, Conway, AR 72035. *First order compatibility for reaction-diffusion equations.*

We consider the compatibility between first order partial differential equations and nonlinear reaction-diffusion equations in 2+1 and 3+1 dimensions. In 2+1 dimensions, we give conditions on the reaction term such that the compatible equation is quasilinear. We further show that in 3+1 dimensions, compatible equations are quasilinear regardless of the nature of the reaction term. (Received January 22, 2005)