1067-35-2191 **Danny Arrigo*** (darrigo@uca.edu), Department of Mathematics, 201 Donaghey Ave., Conway, AR 72035, and **David Ekrut**, **Long Le** and **Sang Lee**. *Nonclassical symmetries of a reaction-diffusion equation with a quadratic nonlinearity.*

Recently it has been shown that compatibility between a given PDE and a general first order quasilinear PDE gives rise to its nonclassical symmetries. Here we consider the compatibility between both a first and second order equation and a (2+1) dimensional reaction-diffusion equation with a quadratic nonlinearity. We discuss both the similarities and differences when going from first order compatibility to second order compatibility. (Received September 22, 2010)