962-35-585 **Danny Arrigo*** (darrigo@mail.uca.edu), Department of Mathematics, University of Central Arkansas, Conway, AR 72035, and **Fred Hickling** (fredh@mail.uca.edu), Department of Mathematics, University of Central Arkansas, Conway, AR 72035. *On the determining equations for the nonclassical reductions of the heat and Burgers' equation.*

The determining equations for the nonclassical reductions of the heat and Burgers' equations are considered. It will be shown that both systems belong to a Burger equation hierarchy. Each system can be written in terms of the same matrix Burgers' equation that is linearizable via a matrix Hopf-Cole transformation. In essence, both systems can be solved simultaneously. Their respective solutions will then be given in a very compact form. (Received September 15, 2000)