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Special classes of symmetry reductions for PDEs involving arbitrary functions. Preliminary report.

Specific classes of symmetry reductions for partial differential equations involving arbitrary functions that depend only on the independent variables are discussed. These symmetry reductions can be especially associated with parameter identification problems described by partial differential equations. The relationship between the determining equations of the generalized equivalence transformations and the determining equations of the extended classical symmetries is analyzed. As a consequence, any symbolic manipulation program designed to find the classical Lie symmetries can also be used to determine the generalized equivalence transformations. (Received February 02, 2009)