David C. Carothers* (carothdc@jmu.edu), Department of Mathematics and Statistics, James Madison University, Harrisonburg, VA 22807. Polynomial systems of differential equations and functions with removable singularities. Preliminary report.

We examine the relationship between a class of analytic functions characterized by the singularity of polynomial ODEs for which they are a solution (Flanders, Functions not satisfying implicit, polynomial ODE, J. Differential Equations 240) and first order systems of polynomial differential equations as studied by Parker, Sochacki, et. al. (e.g. Sochacki, Polynomial ODEs - Examples, Solutions, Properties, Neural, Parallel & Scientific Computations 18). (Received September 20, 2016)