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Revisit of differential invariant method for finding nonlocal symmetries of nonlinear partial differential equations

In this talk, we consider examples using the symmetry-based differential invariant method for finding nonlocally related systems of DEs. In particular, through the DI method, we obtain nonlocal symmetries for nonlinear wave equations, telegraph equations, diffusion-convection equations and reaction-diffusion equations. We recover previously known nonlocal symmetries of these equations obtained by the conservation-law based method. (Previous work showed that the CL-based method is a special case of the DI method).