Variform exact one-peakon solutions for some singular NTW equations

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In this talk, we consider variform exact peakon solutions for four nonlinear wave equations. We show that under different parameter conditions, one nonlinear wave equation can have different exact one-peakon solutions and different nonlinear wave equations can have different explicit exact one-peakon solutions. Namely, there are various explicit exact one-peakon solutions, which are different from the one-peakon solution $pe^{-\alpha|x-ct|}$. In fact, when a travelling system has a singular straight line and a curve triangle surrounding a periodic annulus of a center under some parameter conditions, there exists peaked solitary wave solution (peakon).