

# Exact Solutions of the Generalized Constantin-Lax-Majda Equation with Dissipation

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We consider several exact solutions of the generalized Constantin-Lax-Majda equation with dissipation  $-\Lambda^\sigma$ , where  $\widehat{\Lambda}^\sigma = |k|^\sigma$ , both for the problem on the circle  $x \in [-\pi, \pi]$  and the real line. We analyze these solutions from the standpoint of complex pole singularities and their motion in the complex space and find conditions for finite time collapse in these solutions for various advection parameter, dissipation coefficient and  $\sigma$  values.