

# Viscous Modified Ghost Scalar Field Dark Energy Models with Varying $G$

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We intend to study QCD-modified scalar field models of dark energy, in the presence of both interaction and viscosity, with varying gravitational constant  $G$ . The equation of the state parameter of the interacting viscous QCD-modified ghost dark energy (MGDE) and the deceleration parameter of the universe, is derived. Furthermore, we establish the correspondence between the interacting viscous QCD-MGDE and scalar field models of the dark energy which includes quintessence, tachyon, k-essence, and dilaton energy density. This is done in the framework of a non-flat FRW universe. Hence we are able to establish a correspondence and reconstruct the potential  $V(\phi)$  and dynamics  $\phi$  of the scalar field models according to the evolution of viscous QCD-MGDE.

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