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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 ϕ of the scalar field models according to the evolution of viscous QCD-MGDE.

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