International J. of Math. Sci. & Engg. Appls. (IJMSEA) ISSN 0973-9424, Vol. 9 No. II (June, 2015), pp. 299-306

BULK VISCOUS COSMOLOGICAL MODELS WITH LINEARLY VARYING DECELERATION PARAMETER IN LYRA'S MANIFOLD

S. SURENDRA SINGH

Department of Mathematics, NIT Manipur, Imphal - 795001, Manipur, India

Abstract

Friedmann Robertson Walker universe in the presence of viscous fluid are investigated in the cosmological theory based on Lyra's manifold by considering the deceleration to be linearly variable and co-efficient of bulk viscosity to be a constant. Exact solutions have been obtained from which cosmological models have been derived. It is observed that the universe ends with big rip. Dynamical and physical properties of the cosmological solutions have been studied.

Key Words : Lyra's manifold, Varying deceleration parameter, Big rip. 2000 AMS Subject Classification : 98.80.Cq, 95.35.+d.

© http://www.ascent-journals.com