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Bianchi Type VI₁ Viscous Fluid Cosmological Model in Wesson´s Theory of Gravitation

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Abstract: Field equations of a scale invariant theory of gravitation proposed by Wesson [1, 2] are obtained in the presence of viscous fluid with the aid of Bianchi type VI_h space-time with the time dependent gauge function (Dirac gauge). It is found that Bianchi type VI_h (h = 1) space-time with viscous fluid is feasible in this theory, whereas Bianchi type VI_h (h = -1, 0) space-times are not feasible in this theory, even in the presence of viscosity. For the feasible case, by assuming a relation connecting viscosity and metric coefficient, we have obtained a nonsingular-radiating model. We have discussed some physical and kinematical properties of the models.

Key Words: Gauge function, viscous fluid, scale invariant theory.