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Original article

A Comprehensive Study of the Kantowski-Sachs Cosmological Model and Its Thermodynamic Analysis

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Abstract: This paper deals with the study of Kantowski-Sachs cosmological model with New Holographic Dark Energy (NHDE) in the framework of General Relativity (GR). To find the system of field equations entirely, simple parametrization of average scale factor $a(t) = exp\{(\gamma t + \delta)^{l}\}$ as suggested by Mishra and Dua has been adopted. Some parameters such as matter energy density, NHDE density, Hubble parameter, etc. has been discussed physically and graphically. In addition, the Generalized Second Law (GSL) of thermodynamics is validated. The bulk viscosity's role in maintaining thermodynamic consistency is also examined. The results indicate that the

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