

Gravitational Field of a Spherical Perfect Fluid

Merab Gogberashvili

E-mail: Merab.Gogberashvili@tsu.ge

Chair of Elementary Particles and Quantum Fields,

Department of Physics,

I. Javakhishvili Tbilisi State University,

3 Chavchavadze Ave., Tbilisi 0179, Georgia&

TSU E. Andronikashvili Institute of Physics,

6 Tamarashvili St., Tbilisi 0177, Georgia

Analyzing the spacetime for a static spherically distributed perfect fluid we show that the smooth matching of the interior and exterior metrics for a realistic source is possible only for the distances from the origin that exceeds the photon sphere radius for this object [1].

References:

- [1] **M. Gogberashvili** and **B. Modrekiladze**, “Gravitational Field of a Spherical Perfect Fluid”, *European Physical Journal C* **79** (2019) 643.