

## INTISARI

### **MEDAN-MEDAN GRAVITOELEKTROMAGNETIK PADA RUANG WAKTU VAIDYA DIPERUMUM DALAM TEORI GRAVITASI TELEPARALEL**

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Dalam penelitian ini, telah dilakukan tinjauan mengenai ruang waktu Vaidya yang diperumum dari sudut pandang gravitasi teleparalel dan solusi gravitoelektromagnetiknya. Tetrad nontrivial terkait ruang waktu Vaidya yang diperumum telah diperoleh. Tetrad referensi (dalam artian tetrad trivial) beserta potensial tera gravitasi terkait tetrad nontrivial telah ditinjau. Efek inersial yang muncul pada kerangka atau tetrad trivial yang diperoleh juga telah ditinjau melalui koneksi spin. Torsi dalam sistem koordinat Eddington-Finkelstein dan Kartesius juga telah diperoleh. Medan gravitoelektrik dan medan gravitomagnetik kemudian diperoleh dari tinjauan komponen-komponen tak lenyap tensor torsi dalam wakilan sistem koordinat Kartesius.

Kata-kata kunci : Solusi Vaidya yang diperumum, gravitasi teleparalel, medan gravitoelektromagnetik.

## **ABSTRACT**

# **GRAVITOELECTROMAGNETIC FIELDS ON GENERALIZED VAIDYA SPACETIME IN THE THEORY OF TELEPARALLEL GRAVITY**

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In this research, the generalized Vaidya spacetime and its gravitoelectromagnetic solutions in the teleparallel gravity point of view have been reviewed. A non-trivial tetrad associated with generalized Vaidya solution has been found. Reference tetrad (in the sense of trivial tetrad) and gravitational gauge potential associated with the non-trivial tetrad have been reviewed. The inertial effects which are present in the non-trivial tetrad have also been reviewed through the spin connection calculation. The torsion tensor in the Eddington-Finkelstein and the Cartesian coordinates system have also been obtained. The gravitoelectromagnetic fields can then be obtained from the analysis of the non-vanishing components of the torsion tensor that are represented in the Cartesian coordinate system.

**Keywords:** Generalized Vaidya solution, teleparallel gravity, gravitoelectromagnetic field.