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SPHERICALLY SYMMETRIC EFG-COORDINATE SYSTEM IN A NARROW SENSE OF V_5

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Abstract

In this paper we studied the spherically symmetric (s.s.) EFG-coordinate system in V_5 by transformation method. We obtain

$$ds^2 = 2Edrdt + 2Fdrdu + 2Gdtdu - B(d\theta^2 + \sin^2\theta d\phi^2)$$

from the s.s. line element

$$ds^2 = -Adr^2 - B(d\theta^2 + \sin^2\theta d\phi^2) + Cdt^2 - Ddu^2 + 2Edrdt + 2Fdrdu + 2dtdu$$

by transformation method.
Further we shall obtain the Christoffel symbol, curvature tensor and scalar curvature for the s.s. line element which is called the Spherically symmetric EFG-coordinate system in a narrow sense in V_5.

Key Words : *Spherically symmetric, Curvature tensor, Narrow sense.*