

STATIC CYLINDRICALLY SYMMETRIC SOLUTIONS OF EINSTEIN'S EQUATIONS

M. A. Kauser¹ & Q. Islam²

¹*Research Scholar, Department of Mathematics, Chittagong University of Engineering and Technology, Bangladesh*

²*Research Scholar, Jamal Nazrul Islam Research Center for Mathematical and Physical Sciences, University of Chittagong, Bangladesh*

ABSTRACT

In recent years, a number of solution generating techniques for spherically symmetric perfect fluid solutions of Einstein's equations have been invented. Besides, solutions with cylindrical symmetry are much less studied because of the complexity of calculations involving the equations for cylindrically spacetime. For our kith interest in the cylindrically symmetric static perfect fluid solutions of Einstein's equations, we have provided an algorithm and find a new realistic solution.

KEYWORDS: *Spherical Symmetry, Cylindrical Symmetry, Tangential Gauge, Arc-length Gauge, Metric Function, Axis of Symmetry, Minkowski Space*

Article History

Received: 04 Jun 2020 | Revised: 22 Jun 2020 | Accepted: 25 Jun 2020
