

Rigged scalar curvature on null hypersurfaces of GRW spacetimes

By AMRINDER PAL SINGH (Patiala), CYRIAQUE ATINDOGBE (Cotonou),
RAKESH KUMAR (Patiala) and VARUN JAIN (Patiala)

Abstract. We use the natural correspondence between totally umbilical null hypersurfaces of generalized Robertson–Walker (GRW) spacetimes and twisted decomposition of the fibres, to study the rigged scalar curvature of totally umbilical null graphs of GRW spacetimes. Finally, a special attention is paid to totally geodesic ones.

AMRINDER PAL SINGH &
RAKESH KUMAR
DEPARTMENT OF MATHEMATICS
PUNJABI UNIVERSITY
PATIALA-147 002
INDIA

CYRIAQUE ATINDOGBE
DEPARTMENT OF MATHEMATICS
UNIVERSITY OF ABOMEY-CALAVI
COTONOU, BP 526
BENIN

VARUN JAIN
DEPARTMENT OF MATHEMATICS
MULTANI MAL MODI COLLEGE
PATIALA-147 001
INDIA

Mathematics Subject Classification: 53C50, 53C40, 53C42.

Key words and phrases: null hypersurfaces, rigging vector field, rigged scalar curvature, generalized Robertson–Walker spacetimes.