



Online Conference on Gravitational Physics and Astronomy

4-9 December 2022



<https://indico.cern.ch/e/GPA2022>



https://www.mdpi.com/journal/physics/special_issues/SPGPCC



Contribution ID: 47

Type: **not specified**

Expansion of Raychudhuri Equation in Parameterized Absolute Parallelism Geometry

Following the assumption that the expansion of the Raychudhuri equation in a geometry wider than the Riemannian geometry might avoid the space singularity often associated with various astrophysical models, we aim in the present script at deriving the expansion and its temporal variation in the parametrized absolute parallelism geometry out approach utilizes a modified version of geodesic, and also a modified version of the Raychudhuri equation. We also use the generalized definition of expansion in the modified Raychaudhuri equation to get the expansion and its temporal evolution in parameterized absolute parallelism geometry. Here, we use a geometric structure based on absolute parallelism geometry together with the metric of Riemannian space, associated with this structure. We obtained a general form of the expansion. This form matches with the expansion in the case of radial, marginally bound, time-like geodesics of the Schwarzschild space-time in the Riemannian geometry.

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