

A PURE GEOMETRIC APPROACH TO COSMOLOGY

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It is well known that standard Big-Bang cosmology suffers from certain problems, e.g. singularity, horizon, flatness, ... In the present work it is claimed that the appearance of some of these problems is due to two main assumptions. The first is the assumption that the 4-dimensional Riemannian (RIE)-geometry gives a complete description of the cosmic space-time. The second is the assumption that the material distribution in the universe is described by a phenomenological (PH)-matter tensor. It is shown that, by relaxing these two assumptions, some of the problems of the standard Big-Bang cosmology could be avoided. The following table summarises some results in favour of the above claim. The absolute parallelism (AP)-geometry is used to construct some of the theories mentioned in the table.

TABLE 1. Comparison between isotropic and homogeneous models

Field theory	Geometry	Matter tensor	Horizon?	Flatness?	Reference
GRT	RIE	PH	Yes	Yes	1
GFT	AP	Geometric	No	No	2
MTT	AP	PH	Yes	Yes	3
NGR	AP	PH	Conditional	Yes	4

References

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