

”Hot points in cosmology and astrophysics”,
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Lecture 1

In lecture 1 I plan to review the basic properties of superstring cosmologies with the main stress put into the pre-big-bang cosmologies. Next, I will briefly discuss the ekpyrotic/cyclic cosmologies and show their advantage in the context of the avoidance of the Big-Bang singularity. Some interesting duality relations, including phantom duality are to be revealed, too.

Lecture 2

In lecture 2 I will make the discussion of the explicit relation between superstring, Brans-Dicke and conformal cosmologies. The latter allow the invariance of the universe models under conformal transformations of the metric. The range of generality of the conformal cosmologies and some of their properties will also be discussed in more detail.

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