

Título/Title:

How old is the Universe?

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Descrição/Description:

The age of the oldest galaxy clusters indicates that the universe is at least 11-12 Gyrs old. The concordance model in cosmology states that the universe expands as a consequence of the initial Big Bang singularity, but the speed up of such expansion depends on the matter content, being nowadays accelerated as an effect of the unknown and mysterious dark energy. Consequently, the time the universe has spent on such expansion depends on the nature of the matter content. A first estimation of the age of the universe is obtained by the Hubble rate: $1/H_0$, although the theoretical value varies from one model to another.

How old is the universe then? how long will the universe last (if a disaster-somehow as the Big Bang-occurs)? These and others would be the central points raised for this assignment.