

Steps towards relativistic cosmology

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Abstract

09:30 Lecture (20 mins): Standard cosmological simulations insert the cosmological scale factor evolution $a(t)$ into a simulation artificially, based on a structureless model of the Universe. A brief introduction on how to calculate the effective scale factor $a_{\text{eff}}(t)$ as a mathematically averaged quantity emerging from structure formation within the simulation itself will be presented.

09:50 Workshop (70 mins): Please try to install the packages from <https://bitbucket.org/broukema/ramses-scalav> before this session (see **INSTALL.ramses-scalav**). All of the packages are free-licensed, so you may freely modify, distribute and distribute modified copies of them. A minimal goal in this micro-course will be to run and understand basic elements of INHOMOG. A more ambitious goal would be to run the full RAMSES-SCALAV combined package and have some vision of its structure and aims.