



Contribution ID: 13

Type: **not specified**

# When can one extend the conformal metric through a space-time singularity?

*Wednesday 9 April 2008 14:00 (1 hour)*

One knows, for example by proving well-posedness for an initial value problem with data at the singularity, that there exist many cosmological solutions of the Einstein equations with an initial curvature singularity but for which the conformal metric can be extended through the singularity. Here we consider a converse, a local extension problem for the conformal structure: given an incomplete causal curve terminating at a curvature singularity, when can one extend the conformal structure to a set containing a neighbourhood of a final segment of the curve? We obtain necessary and sufficient conditions based on boundedness of tractor curvature components. (Based on work with Christian Luebbe: arXiv:0710.5552, arXiv:0710.5723.)

**Presenter:** TOD, Poul (Oxford)