

Scientific report

ADS/CFT, ENTANGLEMENT, AND TIME DEPENDENCE

I visited the Vrije Universiteit Brussel (VUB) for 12 days, from 4.2.2013 until 15.2.2013, to work on aspects of the AdS/CFT correspondence and collaborate with Ben Craps and other members of the group.

We had intense discussions of the scientific issues described in the proposal. Ben and I have understood that computing entanglement entropy in field theories with hyperscaling violation may shed new light on the holographic description of the Fermi surfaces. We are in the process of constructing such a field theory example.

Another interesting development concerns non-local gravity, a subject that I have started to work on with Alexey Koshelev, a postdoc at VUB. Such theories may provide a whole new class of AdS/CFT models.

It is expected that future collaboration on these subjects will continue and will lead to publication(s).

20 February 2013, Andrei Parnachev