APCTP SEMINAR

Holographic Path-Integral Optimisation

Dongsheng Ge

University of Warsaw

December 28th (Tue.) 15:00 (KST)

Online via ZOOM

In this talk, I will talk about the work arXiv:2104.00010. There, we elaborate on holographic description of the path-integral optimization in conformal field theories (CFT) using Hartle-Hawking wave functions in Anti-de Sitter spacetimes. We argue that the maximization of the Hartle-Hawking wave func-tion is equivalent to the path-integral optimization procedure in CFT. In particular, we show that metrics that maximize gravity wave functions computed in particular holographic geometries, precisely match those derived in the path-integral optimization procedure for their dual CFT states. The present work contains many examples such as analysis of excited states in various dimensions including JT gravity, and a new way of estimating holographic path-integral complexity from Hartle-Hawking wave functions. Finally, we generalize the analysis to Lorentzian Anti-de Sitter and de Sitter geometries and use it to shed light on path-integral optimization in Lorentzian CFTs.

■ ZOOM Webinar
1) Please register through this ZOOM link
 https://us06web.zoom.us/meeting/register/tZcud-moqTkpHNYhXmlLgFP6svSc7Vys7z6V
2) Join the webinar with a link generated after the registration
3) Please rename your profile - E.g. **Full name (affiliation)**

■ Contact information
1) Host: Junggi Yoon(junggi.yoon@apctp.org)
2) Office: Research Support Team (ra@apctp.org)