Contribution ID: **76** Type: **not specified**

Quasinormal modes of Schwarzschild de Sitter black holes from Liouville CFT

Monday, 28 August 2023 16:40 (40 minutes)

We consider black hole linear perturbation theory in a four-dimensional Schwarzschild de Sitter background. The relevant differential equation is a Heun equation, which is a second order ODE with four regular singularities. After showing how the exact connection formulae for the Heun equation can be obtained from the semiclassical limit of Virasoro conformal blocks, we use these formulae to obtain the quantization condition which gives the quasinormal mode frequencies as series expansions in the radius of the black hole horizon. We conclude discussing how the method can be applied to different backgrounds, such as Kerr-de Sitter or asymptotically anti-de Sitter black holes, emphasising the problems in which the method is more effective.

Presenter: ARNAUDO, Paolo (SISSA)

Session Classification: Afternoon session 2