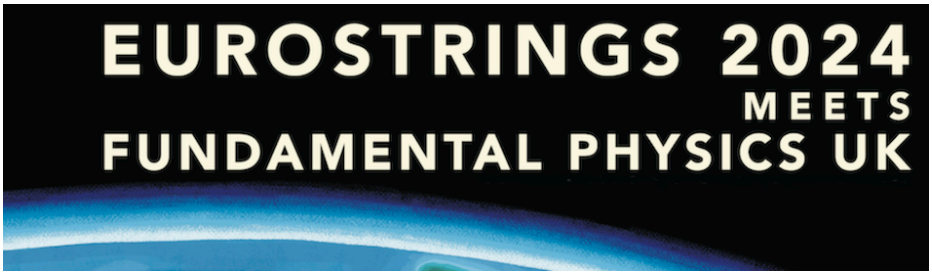

Contribution ID: **98** Type: **Talk in parallel session**

Black hole pseudospectrum in AdS

Monday 2 September 2024 15:10 (20 minutes)

We investigate the stability of the spectrum of (scalar, vector and gravitational) quasinormal modes of electrically charged black branes in asymptotically AdS5 spacetimes under small perturbations of the theory. To achieve this, we formulate the problem as a generalised eigenvalue problem in ingoing Eddington–Finkelstein coordinates, which is advantageous in terms of numerical convergence. Our analysis reveals an increasing spectral instability with higher overtone numbers, consistent with observations in asymptotically flat spacetimes. Additionally, we provide evidence for pseudo-resonances as well as transient instabilities, which can potentially trigger nonlinear instabilities. Finally, we show that the asymptotic behaviour of pseudospectral contour lines is universal across perturbations and is best fit as a polynomial in the real part of the frequency, in contrast to the logarithmic behaviour in asymptotically flat spacetimes.

Link to publication (if applicable)

Author: PANTELIDOU, Christiana (University College Dublin)

Co-authors: COWNDEN, Brad (University of Manitoba); ZILHÃO, Miguel

Presenter: PANTELIDOU, Christiana (University College Dublin)

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