

## SEMINAR OF ANALYSIS

**FRIDAY 26 November 2021 - at 2.15 pm**

Zoom link: <https://epfl.zoom.us/j/62837479339?pwd=M29NZmwvL2lvQ2FNR2lyZ2VxamorUT09>

**Prof. Peter HINTZ** (ETH Zürich - CH)

will present a seminar entitled:

« Quasinormal modes of small black holes »

Abstract:

I will discuss the quasinormal mode (QNM) spectrum of black holes in de Sitter space when their mass tends to zero. The main result establishes the convergence, in compact subsets of the complex plane, to the QNM spectrum of de Sitter space (the limiting spacetime). Upon rescaling, this gives a precise description of QNMs of unit size black holes in de Sitter space with very small positive cosmological constant (as in our own universe). The proof is based on a priori estimates for a degenerating family of ODEs which capture the singular manner in which the black hole ‘disappears’ in the zero mass limit. Numerics illustrate the results and suggest some directions of future research. Joint work with YuQing Xie (MIT).

Lausanne, November 24, 2021

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Seminars are announced on the Mathematics Section website: <http://memento.epfl.ch/math/>