

# STATISTICAL PHYSICS SEMINAR

November 8th, 2017.

Wednesday, 11.00

ELTE TTK Northern Building 2.54

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Wigner RCP

## **Introduction to Hawking Radiation in the Tunneling Pictures**

In classical gravity, a black hole is a thermodynamically dead object where everything is absorbed but nothing is emitted. However, this leads to a paradox related to the second law of thermodynamics. In 1975, Hawking showed that black holes radiate, and this process is known by Hawking radiation. This Hawking radiation can only be understood if we incorporate quantum mechanics into the consideration. In this talk, we give a pedagogical introduction to the Hawking radiation by using tunneling pictures, namely the radial null geodesic and complex path methods. We find that these methods are easier to be understood and lead to the same result that Hawking obtained four decades ago using quantum field theory in curved background.

1117. Budapest, Pázmány Péter sétány 1/A (Északi tömb)

**2.54-es szoba**

<http://glu.elte.hu/~statfiz/index.html>