

Journée des nouveaux entrants pole Théorie

December 1st, 2021

Kilian HERSENT

Quantum Gravity and Quantum Space-times : From Theoretical Aspects to
Multi-messenger Test

Supervisor
Jean-Christophe WALLET

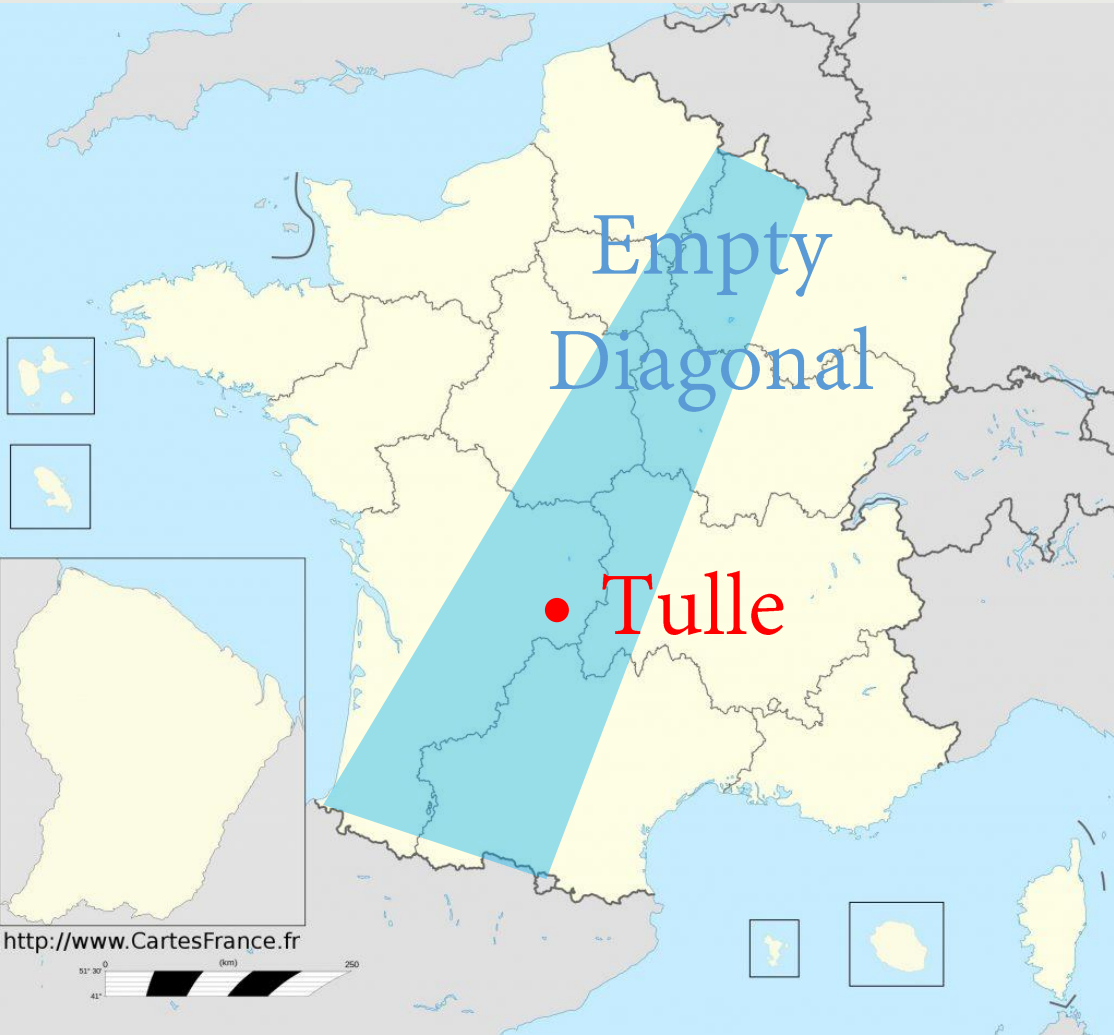


A large, dark, oval-shaped object, resembling a giant egg or a UFO, floats in the sky above a vast green field. In the foreground, there is a small settlement or camp with several buildings and vehicles. The background shows rolling hills under a cloudy sky.

Quantum
Gravity

Me

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BAC Scientifique

2014-2015 : CPGE MPSI

2015-2016 : CPGE MP*

2016-2017 : CPGE MP*

Grandes Ecoles
competition

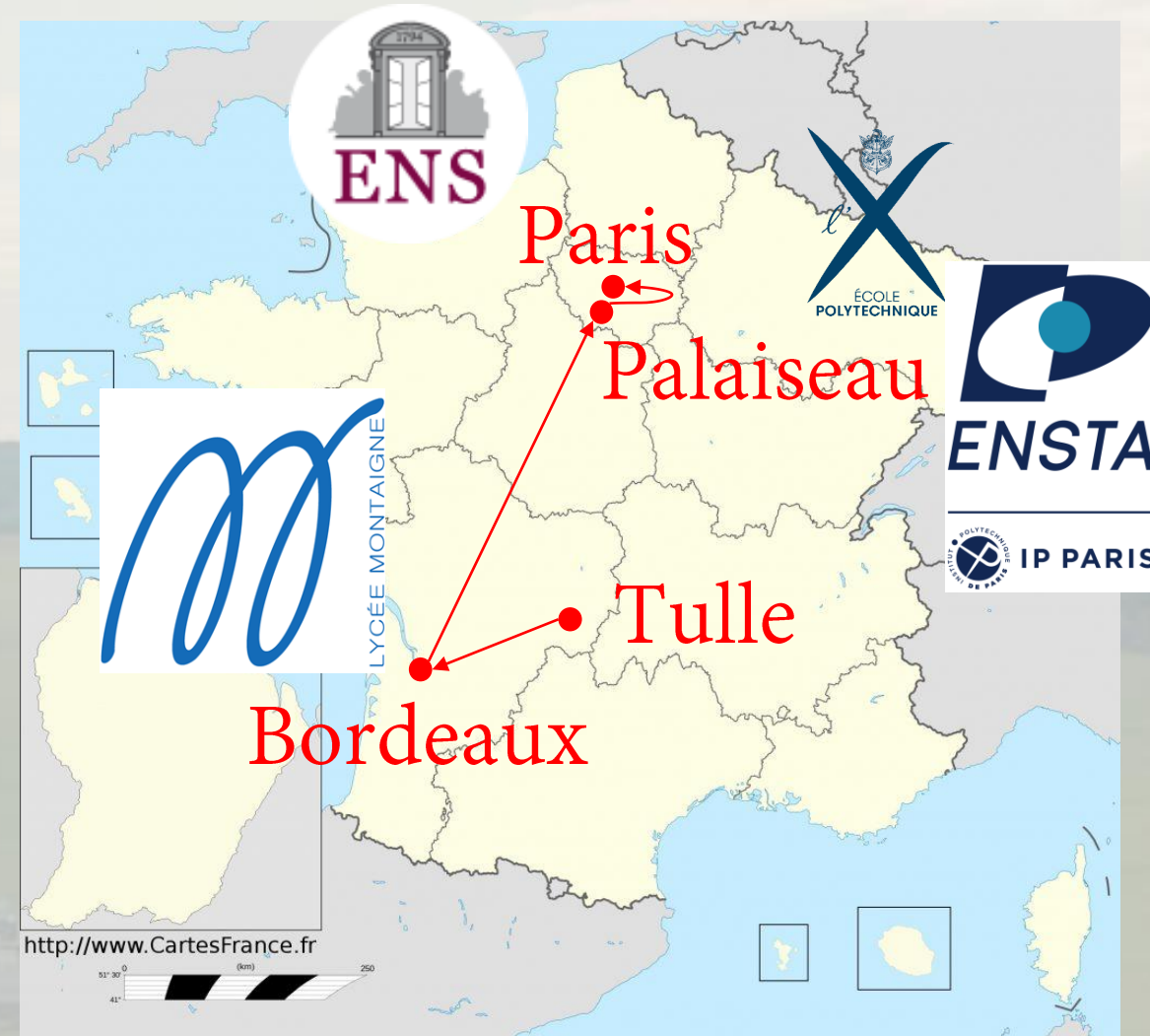
2017-2018 : ENSTA 1st year

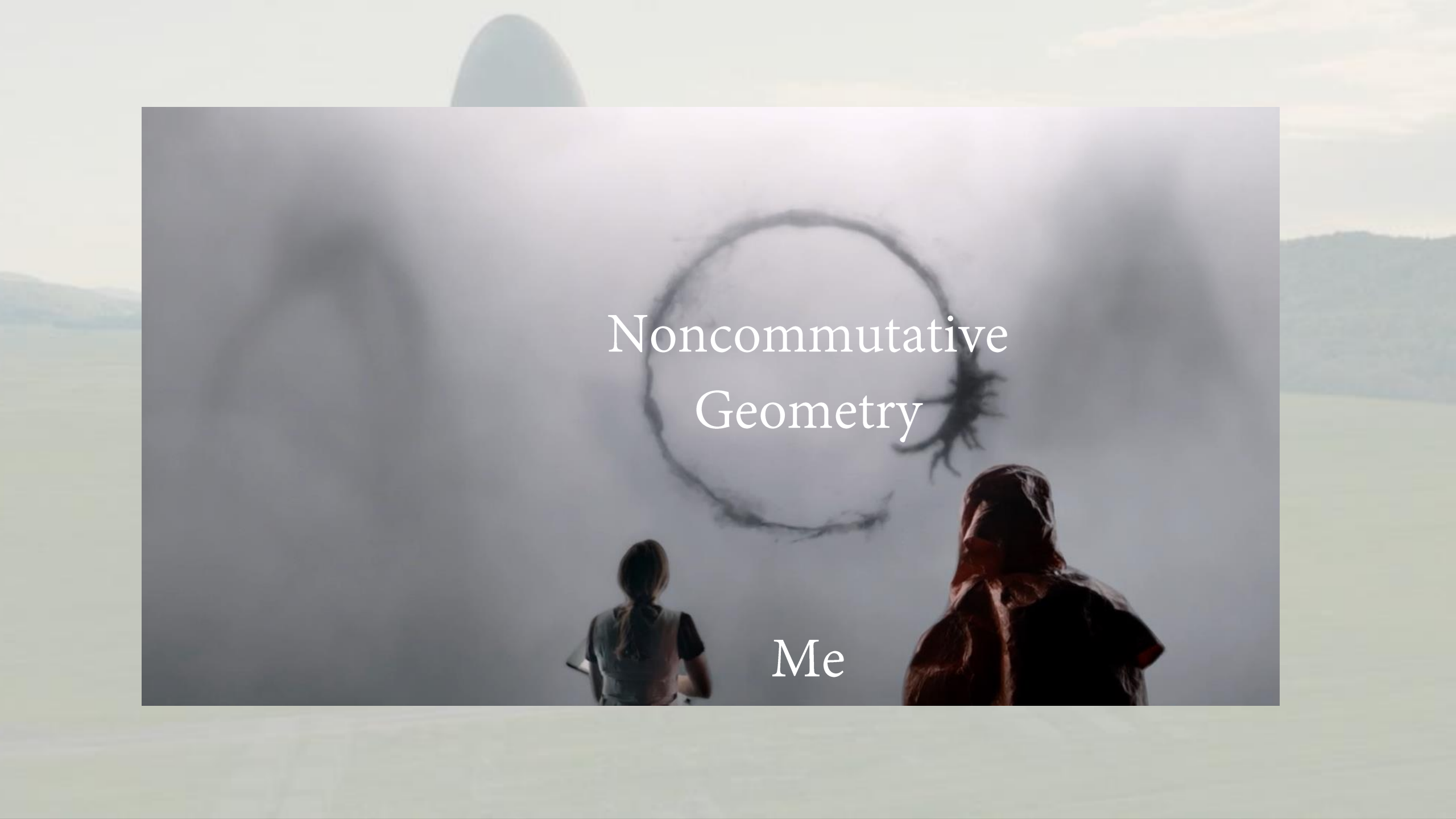
2018-2019 : ENSTA 2nd year

2019-2020 : ENSTA 3rd year

Polytechnique 3rd year : Master 1

2020-2021 : ICFP Master 2



A person with a ponytail and a dinosaur are seen from behind, looking up at a large, circular, dark mark in a cloudy sky. The mark has some irregular, branch-like extensions on its right side. The scene is set in a hazy, open landscape with hills in the distance.

Noncommutative Geometry

Me

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Gauge theories on κ -Minkowski



Gauge theories on κ -Minkowski spaces:
Twist and modular operators

Philippe Mathieu^a, Jean-Christophe Wallet^b

Work to look at

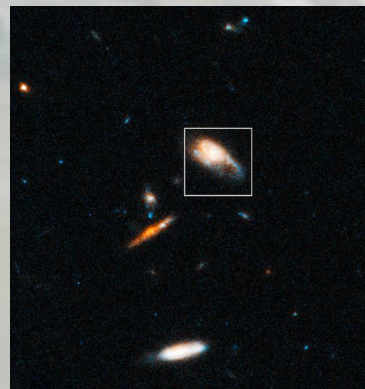
Linear connections, relation with gravity...

Action development in κ

Causality

Observational tests

- MDR and time delay in GRB, AGN, pulsars
- CPT violation
- Optomechanically entangled masses
- ...



A large, smooth, grey egg-shaped object floats in the sky above a landscape with hills and a small industrial or farm complex.

Thanks for your
attention!