



INVITATION

as part of the Mathematical Physics Theory Seminar

to the talk by

Clemens SÄMANN

(University of Vienna)

on

***“Non-regular spacetime geometry via metric geometry
and optimal transport”***

Abstract:

I present an approach to Lorentzian geometry and General Relativity that does neither rely on smoothness nor on manifolds, thereby leaving the framework of classical differential geometry. This opens up the possibility to study curvature (bounds) for spacetimes of low regularity or even more general spaces.

An analogous shift in perspective proved extremely fruitful in the Riemannian case (Alexandrov-, CAT(k)- and CD-spaces). Using strategies from metric geometry and tools from optimal transport this approach to non-regular spacetime geometry has given rise to a fresh and very active line of research. I will report on its progress and, if time permits, give an outlook on future directions.

Time: Tuesday, 15 October 2024, 2:00 p.m.

Location: Erwin-Schrödinger Lecture Hall, 1090 Vienna, Boltzmannngasse 5, 5th floor

sgd. S. Fredenhagen, M. Sperling