

FAKULTÄT für PHYSIK  
LUDWIG-MAXIMILIANS-UNIVERSITÄT  
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT  
TECHNISCHE UNIVERSITÄT MÜNCHEN  
MÜNCHEN/GARCHING

## Garching Maier-Leibnitz-Kolloquium

Donnerstag, 21.10.2021, 16<sup>15</sup> Uhr

Hörsaal der LMU in Garching, Am Coulombwall 1  
Treffen zum gemeinsamen Kaffee 16 Uhr

Dr. Mikhail Mikhasenko

(ORIGINS Excellence Cluster, Munich)

### Discovery and Study of the First Double-Charm Tetraquark

Conventional hadronic matter consists of baryons and mesons which are made up of three quarks and quark-antiquark pairs, respectively. Hints for exotic hadrons continue to appear since the discovery of the unusual properties of X(3872) in 2003, as well as charged charmonium-like states in 2013, and some pentaquark states in 2015. In the talk, I will discuss a new landmark discovery, namely the observation of a genuinely new class of hadrons, a doubly charmed tetraquark. This state is interpreted to consist of two charm quarks, an anti-u, and an anti-d quark. It has been observed in data collected by the LHCb experiment at the Large Hadron Collider. Details of the data analysis and aspects of several theoretical calculations that anticipated the discovery of this state decades ago will be reported.

For whom it is not possible to join in person (being the recommended participation mode), a remote access via ZOOM will be provided:

<https://lmu-munich.zoom.us/j/98457332925?pwd=TWc3V1JkSHpyOTBPQVlMelhuNnZ1dz09>

Meeting ID: 984 5733 2925

Passcode: 979953

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