

A photograph of a modern building at dusk. The building has a prominent cylindrical tower on the left side, illuminated from within, showing a grid of windows. The rest of the building is a multi-story structure with a grid of windows, some of which are lit from within. On the roof of the building, the letters 'tu' are illuminated in a bright green color. The sky is a dark, deep blue.

tu

Portrait
TU Dortmund theory

October 5th, 2020

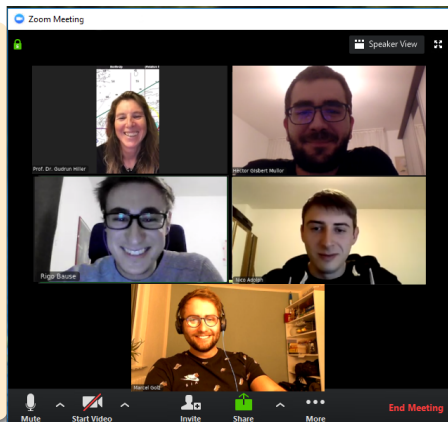
Theoretische Physik IV

- ▶ Physics beyond the Standard Model
- ▶ Flavor and Rare Decays
- ▶ Charm physics
- ▶ Asymptotic Safety
- ▶ Top-physics in SMEFT

The charm team

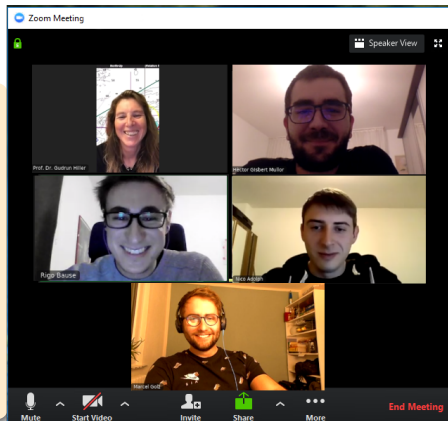
From left to right, top to bottom

- ▶ Prof. Dr. Gudrun Hiller
- ▶ Dr. Héctor Gisbert-Mullor
- ▶ Rigo Bause
- ▶ Nico Adolph
- ▶ Marcel Golz



The charm team

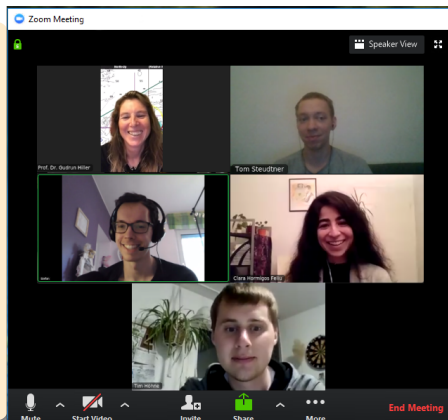
- ▶ Radiative charm decays
- ▶ Semileptonic dilepton, dineutrino modes
- ▶ CP violation
- ▶ Standard model null tests
- ▶ Model building



BSM, Asymptotic Safety, and the top

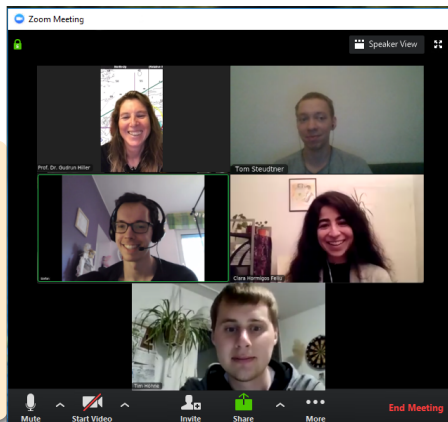
From left to right, top to bottom

- ▶ Prof. Dr. Gudrun Hiller
- ▶ Dr. Tom Steudtner
- ▶ Stefan Bißmann
- ▶ Clara Hormigos-Feliu
- ▶ Tim Höhne



BSM, Asymptotic Safety, and the top

- ▶ Flavour hierarchies
- ▶ UV completions
- ▶ Collider signatures of BSM models
- ▶ Top quark physics in SMEFT



NEW (since October 2020)

Jun.-Prof. Dr. Emmanuel Stamou



- ▶ B - and Kaon Flavor Physics
 - ▶ CP -violation
 - ▶ $R_{K^{(*)}}, B_q \rightarrow \mu^+ \mu^-$
 - ▶ $\epsilon_K, K \rightarrow \pi \nu \bar{\nu}, \dots$
 - ▶ ...
- ▶ Dark matter, BSM
 - ▶ Axions, gauged flavor, ...