



## Mathematics and CS Seminar

# Laser spectroscopy of antiprotonic helium

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The ASACUSA experiment at CERN carried out precision laser spectroscopy experiments on a composite matter-antimatter bound system called antiprotonic helium. These three-body metastable exotic atoms are formed spontaneously in helium targets, when a stopping antiproton is replacing one of the electrons of a ground state helium atom. The remaining 1s-electron protects the antiproton in near-circular Rydberg states during collisions, such that these states can sustain microsecond-scaled lifetimes. By comparing the 3-body relativistic QED predictions to the measured transition frequencies, the antiproton-to-electron mass ratio can be deduced to high precision.

**Tuesday, March 21, 2017 11:00am - 01:00pm**

Seminar room Big Ground floor / Office Bldg West (I21.EG.101)



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.