

FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

MLL-KOLLOQUIUM

Donnerstag, 12.04.2018, 16¹⁵ Uhr

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

Dr. Clara Peset

(Physik Department T31, TU München)

Effective field theories for hydrogen-like bound-states

Recent experimental measurements of muonic bound-states provide a new and powerful way to study the properties of QCD at low energies as well as to probe physics beyond the Standard Model. These systems are best described by means of an effective field theory, namely potential nonrelativistic QED (pNRQED). The well-established power counting of pNRQED allows for model independent predictions while keeping theoretical uncertainties under control. In this talk, I will review such a theoretical setting and present the computation of the Lamb-shift and the hyperfine-splitting in muonic hydrogen, with special emphasis on the hadronic contributions and the determination of the proton charge radius.

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