Beitrag ID: **15** Typ: **nicht angegeben**

Precision studies of the hydrogen molecular ion and its isotopologues

Dienstag, 16. September 2014 17:30 (1 Stunde)

We present systematic calculations of the leading order relativistic corrections including the hyperfine splitting (HFS) for a wide range of rotational and vibrational states of the HT+ molecular ion. We also calculate the DC and AC Stark effects for the molecular hydrogen ions H2+ and HD+ in the non-relativistic approximation. The influence of the DC Stark polarizability effect on the hyperfine substates of a ro-vibrational state is carefully analyzed. Our results enable the detailed evaluation of certain systematic shifts of the transition frequencies for the purpose of ultra-high-precision optical, microwave, or radio-frequency spectroscopy of the hydrogen molecular ions in a trap.

Autoren: Herr BEKBAYEV, Askhat (K.); Dr. KOROBOV, Vladimir (Joint Institute for Nuclear Research)

Co-Autor: Herr AZNABAYEV, Damir (T)

Vortragende(r): Herr BEKBAYEV, Askhat (K.)

Sitzung Einordnung: Poster