

Seminar on Condensed Matter Theory

Group of Theoretical Physics at the Department of Condensed Matter Physics
of Charles University has a pleasure to invite you to attend the seminar

on 25 October 2018 at 13:00

at Faculty of Mathematics and Physics of Charles University, Ke Karlovu 5, 121 16 Praha 2

Seminar room F052



doc. RNDr. Martin Čížek, PhD.

Institute of Theoretical Physics, FMP, Charles University

Strange molecular anion H_2^- . History of discovery and exploration of its properties

This molecular anion has lifetime of order of milliseconds and its existence was controversial for a long time. We have explained its lifetime by stabilization due to the fast rotation in 2004. This is strange system where the most stable state has large rotational quantum number. The existence of the anion was unambiguously proved in 2005, but our interpretation of the state was not universally accepted at first. In last 10 years several subsequent experiments confirmed various properties of the ion. I will review the history of the exploration of this ion and explain our interpretation and numerical difficulties to calculate properties of this ion. I will also review various measurements confirming properties of this ion.

