AU Larsson, M, Danared, H, Larson, A, Le Padellec, A, Peterson, JR, Rosen, S, Semaniak, J, Stromholm, C
TI Isotope and electric field effects in dissociative recombination of D-3(+)
SO PHYSICAL REVIEW LETTERS
LA English
DT Article
ID INTERSTELLAR CLOUDS; STORAGE-RING; ENERGY; H-3+; HEH+; H-3(+); IONS; CHEMISTRY; H3+
AB The cross section for dissociative recombination of vibrationally cold D-3(+) has been measured at the ion storage ring CRYRING. The rate constant at 300 K, alpha = 2.7 x 10(-8) cm(3) s(-1), is a factor of 4.3 smaller than the corresponding value for H-3(+) measured earlier in CRYRING. An electric field of 30 V/cm was introduced in the electron-ion interaction region. This had no measurable effect on the dissociative recombination cross section. This suggests that the cross sections measured in storage rings for H-3(+) and its isotopic variants can be directly compared with theoretical results once such results become available.
C1 UNIV STOCKHOLM, MANNE SIEGBAHN LAB, S-10405 STOCKHOLM, SWEDEN. SRI INT, MOL PHYS LAB, MENLO PK, CA 94025. ROYAL INST TECHNOL, DEPT PHYS ,KTH, S-10044 STOCKHOLM, SWEDEN.
RP Larsson, M, UNIV STOCKHOLM, DEPT PHYS,POB 6730, S-11385 STOCKHOLM, SWEDEN.
NR 45
TC 15
PU AMERICAN PHYSICAL SOC
PI COLLEGE PK
PA ONE PHYSICS ELLIPSE, COLLEGE PK, MD 20740-3844 USA
SN 0031-9007
J9 PHYS REV LETT
JI Phys. Rev. Lett.
PD JUL 21
PY 1997
VL 79
IS 3
BP 395
EP 398
PG 4
SC Physics, Multidisciplinary
GA XL549
UT ISI:A1997XL54900016