AU Nzeyimana, T, Naji, EA, Urbain, X, Le Padellec, A
TI Merged beam study of the associative ionisation (C+, N+ and O+) + O-
SO EUROPEAN PHYSICAL JOURNAL D
LA English
DT Article
ID ELECTRON-IMPACT; RADIATIVE ASSOCIATION; MUTUAL NEUTRALIZATION; CROSS SECTIONS; OXYGEN-ATOMS; RECOMBINATION; IONIZATION; COLLISIONS; IONS; DISSOCIATION
AB Total cross-sections have been measured for the associative ionisation of C+ + O-, N+ + O- and O+ + O- by means of a merged-beam set-up operating with keV beams. These original measurements might be relevant to the understanding of some astrophysical objects or laboratory-made plasmas (flames and etching plasmas). The magnitude of these cross-sections is particularly large whatever the associating system, as these are in the range of 1 X 10(-14) cm(2) at thermal energies. Their behaviour as a function of energy significantly differs from one system to another, and is characterised by the Wigner law at low energy, and a rapid fall-off at higher energy due to competition with non-associative ionisation processes.
C1 Univ Catholique Louvain, Dept Phys, Unite FYAM, B-1348 Louvain, Belgium., Univ Toulouse 3, LCAR, UMR 5589, F-31062 Toulouse 4, France.
RP Nzeyimana, T, Univ Catholique Louvain, Dept Phys, Unite FYAM, Chemin Cyclotron 2, B-1348 Louvain, Belgium.
NR 32
TC 2
PU SPRINGER-VERLAG
PI NEW YORK
PA 175 FIFTH AVE, NEW YORK, NY 10010 USA
SN 1434-6060
J9 EUR PHYS J D
JI Eur. Phys. J. D
PD JUN
PY 2002
VL 19
IS 3
BP 315
EP 325
PG 11
SC Physics, Atomic, Molecular & Chemical
GA 566CP
UT ISI:000176409500004