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Calculation of positron scattering on H_2^{+}[1] DMITRY FURSA, NICO-
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Studies
of positron scattering on H_2^{+} are important part of positron transport modelling
through H_2^{+} and H_2 gases and provide a testing ground for theoretical approaches
to positron collisions with charged and more complex molecular systems. The con-
vergent close-coupling (CCC) method has been applied to study positron scattering
from the vibrational ground state of the molecular hydrogen ion and obtain cross-
sections for total inelastic scattering, dissociative excitation, ionisation, proton pro-
duction for incident energies from 10 to 500 eV. Mass stopping power and mean
excitation energy have also been evaluated. The results have been compared with
available previous calculations and with corresponding cross sections for positron
and electron collisions with He^{+}, H_2^{+}, and H_2. In the absence of experimental data
and scarcity of other theoretical work for this important collision system, the current
calculations will provide a useful complete data set for positron transport studies.

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