Calculation of positron scattering on the hydrogen negative ion[1]
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IGOR BRAY, Curtin University — Positron collisions with the hydrogen negative
ion have been a subject of interest due to exotic nature of the collision system and
its role in understanding positron propagation through the interstellar media. This
collision system is directly related to the Ps-H scattering problem which provides a
testing ground for theoretical studies of Ps interactions with media. Recent devel-
opment of a coordinate-space method (Utamuratov *et al*, Comput. Phys. Commun.
239 (2019) 64) to calculate Ps-formation matrix elements has allowed application
of the two-center CCC approach to e$^+$-H$^-$ scattering. Accurate results have been
obtained for Ps-formation, electron detachment and electron-loss cross sections for
impact energy range from 0.1 eV to 1 keV.

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