



Low-Energy Electron Collisions with Ethane

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We employed the Schwinger multichannel method to compute elastic cross sections for low-energy electron collisions with ethane (C₂H₆). The calculations were carried out in the static-exchange and static-exchange plus polarization approximations for energies up to 12 eV. Our integral cross section shows good agreement with experimental data and with theoretical results for energies above 5 eV. There are some differences for

energies below 5 eV between our results and the available experimental and theoretical results. Our differential cross sections also agree well with the experiment and with theory for energies above 5 eV; below this energy our results agree in shape, but are smaller than the available experimental and theoretical results. We discuss possible reasons for these discrepancies. We found a broad structure in the integral cross section around 8.5 eV

and also a Ramsauer-Townsend minimum around 0.2 eV. These results are in agreement with the experimental observations and theoretical results.

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