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Book of Abstracts

Experimental and theoretical study of differential cross sections for the elastic electron scattering by aneasthetic molecules in the medium energy range

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This research is motivated by the significant impact of aneasthetic molecules in global warming [1]. Relative differential cross sections (DCSs) were obtained and subsequently normalized on the absolute scale by using the relative flow technique, with argon as the reference gas [2]. Additionally, we employed the Independent Atom Model and the Screening Corrected Additivity Rule with incorporated Interference effects (IAM-SCAR+I) to calculate the differential cross sections. Remarkably, the calculated cross sections align closely with the experimental measurements across the entire energy and angular range. Measurements have been carried out for anesthetics molecules, such as sevoflurane [3], isoflurane [1] and desflurane. Absolute DCSs for elastic electron scattering from desflurane at 150 eV are presented in Figure 1.

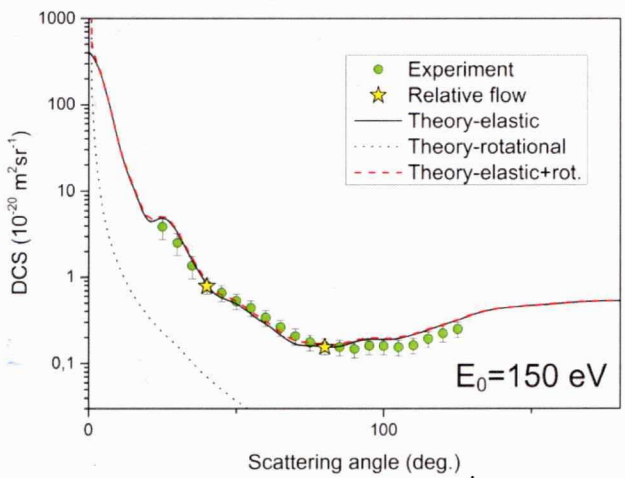

Figure 1: *Angular dependence of the DCSs for elastic electron scattering from desfluran at 150 eV. Circles represent absolute experimental differential cross sections; stars represent absolute values obtained by relative flow method and lines represent calculations.*

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