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Elastic Differential Cross Sections for C_4F_6 by Low Energy Electron Impact KAZUTOSHI ANZAI, DAISUKE SUZUKI, MIZUHA OHKAWA, KAZUAKI NAGUMO, HIDETOSHI KATO, MASAMITSU HOSHINO, DAISUKE MOGI, TAKASHI TANIOKA, PAULO LIMAO-VIEIRA, HIROSHI TANAKA, SOPHIA UNIVERSITY TEAM, TOKYO UNIVERSITY OF SCINECE COLLABORATION, KANTO DENKA KOGYO CO., LTD COLLABORATION, UNIVERSIDADE NOVA DE LISBOA COLLABORATION — We report on the first measurements of elastic differential cross sections (DCSs) in C_4F_6 molecules by low energy electron impact. C_4F_6 has three isomers, hexafluoro-1,3-butadiene (1,3-C_4F_6), hexafluoro-2-butyne (2-C_4F_6) and hexafluorocyclobutene (c-C_4F_6). 1,3-C_4F_6 has been suggested as a potential plasma processing molecule to be used as a replacement to the traditional reactive etching gases , having a negligible global warming potential. The experimental set-up for DCSs consists of a crossed-beam method in conjunction with the relative flow technique . These measurements were performed at incident electron energies from 3–100 eV and scattering angles of 20–130 degrees, with an energy resolution of $\sim$50 meV at FWHM. The elastic DCSs for two isomers 1,3-C_4F_6 and 2-C_4F_6 at low incident electron energy, shows some considerable differences. These will be presented in more detail at the conference.

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