Abstract Submitted
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Scattering of electrons with perfluoroketone molecules CHETAN LIMBACHIYA, The M.S. University of Baroda, Vadodara, India, NIRAV THAKKAR, M.N. Science College, Patan, India, MOHIT SWADIA, H. V. H. P. institute of Science, Kadi, India, MINAXI VINODKUMAR, V. P. Science College, Vallabh Vidyanagar, India, NIGEL MASON, The University of Kent, Canterbury, CT2 7NH, UK — Per?uoroketone (PFK) molecules have been determined to have extremely low global warming potentials (GWPs) and therefore may have applications in next generation gas discharges and plasma reactors [Kesari et al, Patent no. US 6540930B2 (2003)] and can replace SF_6 for various applications. In this work elastic and inelastic cross sections for electron scattering from per?uoroketone (PFK) molecules, $C_xF_{2x}O$ (x = 1-6) are reported from the ionization potential to 5 keV using the Spherical Complex Optical Potential formalism [1]. The ionisation cross sections are are derived using the Complex Scattering Potential-ionization contribution (CSP-ic) method and are found in good agreement with previous data. We also describe low energy calculations (below 15 eV) using the ab-initio R-matrix [2] to evaluate resonances, differential and total cross sections. [1] Swadia M, Thakar Y, Vinodkumar M, Limbachiya C., The European Physical Journal D **71**(4) (2017) 85 [2] Limbachiya C, Vinodkumar M, Mason N., Physical Review A. **83 (**2011) 042708
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