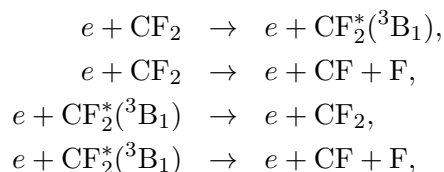


Abstract Submitted  
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**On the effect of additional CF<sub>2</sub> scattering data on a CF<sub>4</sub>/O<sub>2</sub> plasma etch simulation** JAMES J. MUNRO, NATASHA DOSS, JONATHAN TENNYSON, University College London, Gower Street, WC1E 6BT, UK, SONG-YUN KANG, MASATO KAWAKAMI, SUMIE SEGAWA, Tokyo Electron Limited, Technology Development Center, 650 Mitsuzawa, Hosaka-cho, Nirasaki-Shi, Yamanashi, Japan 407-0194 — An analysis of the effect of adding a number of new CF<sub>2</sub> processes to a CF<sub>4</sub> and a CF<sub>4</sub>/O<sub>2</sub> plasma chemistry model is presented. A CF<sub>4</sub> and a CF<sub>4</sub>/O<sub>2</sub> capacitively coupled plasma (CCP) etch process is simulated using a zero-dimensional global plasma model. The reaction data is then extended using a new set of electron impact reaction rates for CF<sub>2</sub>. Namely,



the addition of which leads to a significant change in the concentration of CF<sub>2</sub>. These electron-impact reaction rates are derived from cross-section calculations using Quantemol-N[1]. Measured etch-rates from an equivalent CCP tool are used to validate the model. [1] J. Tennyson et al, J. Phys.: Conf. Ser., 86, 012001 (2007)

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