

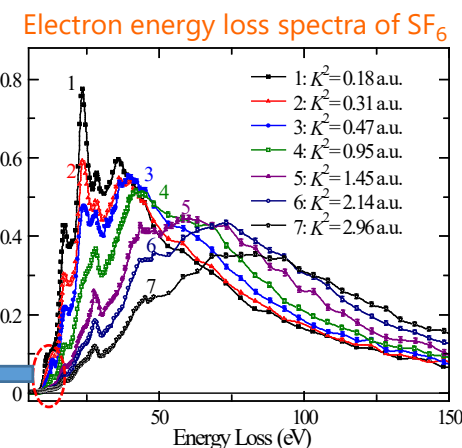
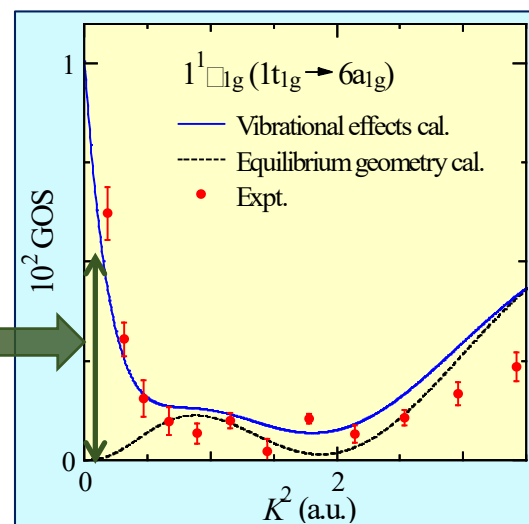
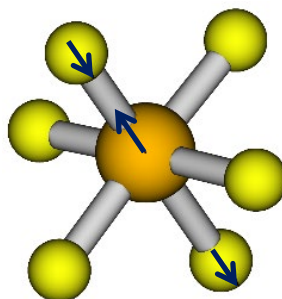
電子衝撃によるSF₆の価電子励起に対する分子振動効果の解明

(東北大多元研) 渡邊昇・平山司・高橋正彦

Vibrational effects on electron-impact valence excitations of SF₆

Noboru Watanabe, Tsukasa Hirayama, and Masahiko Takahashi

Influence of asymmetric stretching vibration

Comparison between the experimental and theoretical generalized oscillator strengths of the 1^1T_{1g} transition.

六フッ化硫黄 (SF₆) は電力産業に不可欠な絶縁ガスであり、また半導体のエッチング加工にも利用されていることから、本分子と電子との相互作用は多くの関心を集めています。本研究では、分子振動を介した電子状態間の結合が、電子衝撃によるSF₆の価電子励起で重要な役割を果たすことを明らかにしました。

Sulfur hexafluoride (SF₆) has been widely used as an insulating medium in electric power technology and also for dry plasma etching in semiconductor industry. Interactions of electrons with this molecule have thus received considerable interest. In this study, we have revealed that coupling between electronic states through molecular vibration plays a significant role in the electron-impact valence excitations in SF₆.