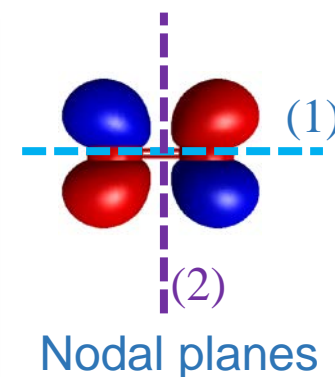
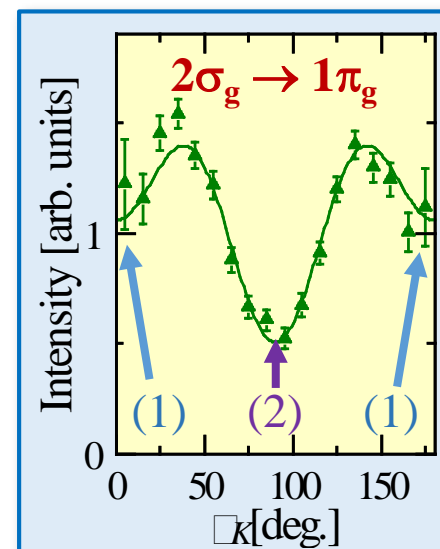
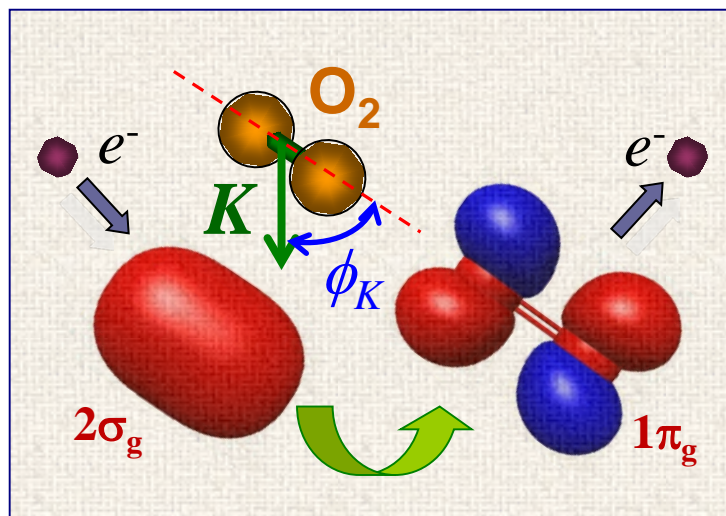


# O<sub>2</sub>の電子衝撃イオン化過程に対する分子軸方向依存性

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## (e, e + ion) study on electron-induced dissociative ionization of O<sub>2</sub>

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Molecular orientation dependence of the electron scattering cross section for the  $2\sigma_g \rightarrow 1\pi_g$  excitation.

空間中でランダム配向している酸素分子を対象に、分子軸方向を規定した電子散乱実験を行いました。電子線照射によって起こる励起過程やイオン化過程の分子軸方向依存性をとらえることに成功するとともに、散乱確率が励起先である分子軌道の形を強く反映した特徴的な角度分布を示すことを明らかにしました。

For gaseous O<sub>2</sub> molecules, randomly oriented in space, electron scattering experiments have been carried out in which the direction of the molecular axis is determined. Molecular-orientation dependences of electron-induced excitation and ionization processes have been successfully measured, and it has been elucidated that the scattering probability exhibits a characteristic angular distribution reflecting the shape of the molecular orbital to which the target electron is excited.