



Optica Applicata 2006(Vol.36), No.4, pp. 551-557

Measurements of inelastic electron scattering from molecular oxygen at high scattering angles

Ireneusz LINERT, Brygida MIELEWSKA, Mariusz ZUBEK

SEARCH

[Advanced search](#)

[About Optica Applicata](#)

[Current issue](#)

[Browse archives](#)

[Search](#)

[Editorial Board](#)

[Instructions for Authors](#)

[Ordering](#)

[Contact us](#)



320.9 kB

Keywords

electron collisions, oxygen, differential cross-sections, magnetic angle changer

Abstract

Inelastic electron scattering from molecular oxygen has been studied for high scattering angles, from 90° to 180° , at the electron incident energy of 10 eV using magnetic angle-changing technique. Excitation of vibrational levels $v = 1-9$ of the $X^3\Sigma_g^-$ ground state and $v = 0$ of the $a^1\Delta_g$ first excited state of oxygen has been observed. From the measured energy loss spectra differential cross-section for excitation of $v = 1$ vibrational level of the $X^3\Sigma_g^-$ state has been determined in the above scattering angle range. In the measurements a newly constructed double hemispherical electrostatic electron spectrometer has been employed which incorporates a recently designed conical magnetic angle-changer.

[Back to list](#)

© Copyright 2007 T.Przerwa-Tetmajer All Rights Reserved 2007

stat4u