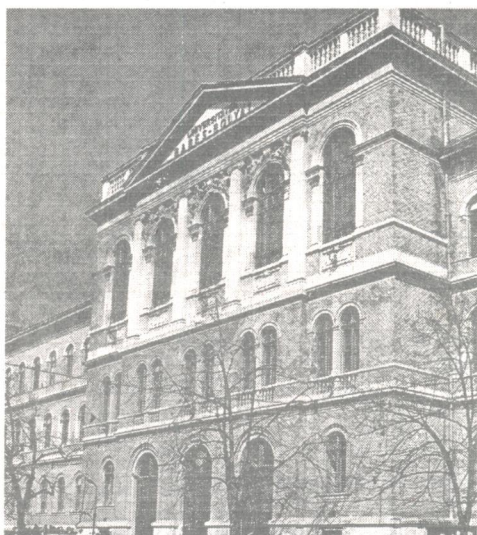


BPU-3

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**PROGRAMME
AND
ABSTRACTS**

ELECTRON EXCITATION OF THE $^1\Pi$ AND $2^1\Sigma^+$ STATES OF N_2O

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Differential electron impact cross sections (DCS) for the excitation of the $^1\Pi$ and $2^1\Sigma^+$ states have been measured using a crossed electron beam - molecular beam technique. The $^1\Pi$ state, as a mixed character Rydberg and valence state, and the $2^1\Sigma^+$ valence state, have been observed as broad features in energy loss spectra at 8.5 and 9.6 eV energy loss, respectively. Spectra are taken with the energy resolution of 50 meV obtained by hemispherical monochromator and analyzer. From absolute data at 80 eV impact energy [1] optical oscillator strengths have been determined. Employing the dispersion relation derived by Haffad *et al* [2], DCS at 15, 20, 30 and 50 eV have been put on the absolute scale. Data are compared with recent experimental results by Michelin *et al* [3].

[1] Marinković B. *et al*, J.Phys.B:At.Mol.Phys. **19** (1986) 2365

[2] Haffad A. *et al*, Phys.Rev.Lett. **76** (1996) 2456

[3] Michelin S.E. *et al*, J.Phys.B:At.Mol.Opt.Phys. **29** (1996) 2115