

Invited Lecture

**STUDY OF UV Ne II LINE SHAPES IN THE CATHODE
SHEATH OF AN ABNORMAL GLOW DISCHARGE**

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We present an optical emission spectroscopic study of Ne II 369.421 nm, Ne II 371.308 nm, and Ne II 372.711 nm spectral line shapes performed in the cathode sheath (CS) region of an abnormal glow discharge in pure neon together with a theoretical study by a novel iterative CS kinetic model which successfully described the experimental profiles of these lines providing estimates of the most important CS parameters (e.g. the thickness of the CS region, distribution of electric field, and the gas temperature).

This work is dedicated to the memory of Nikola M. Šisović.

*Deceased