

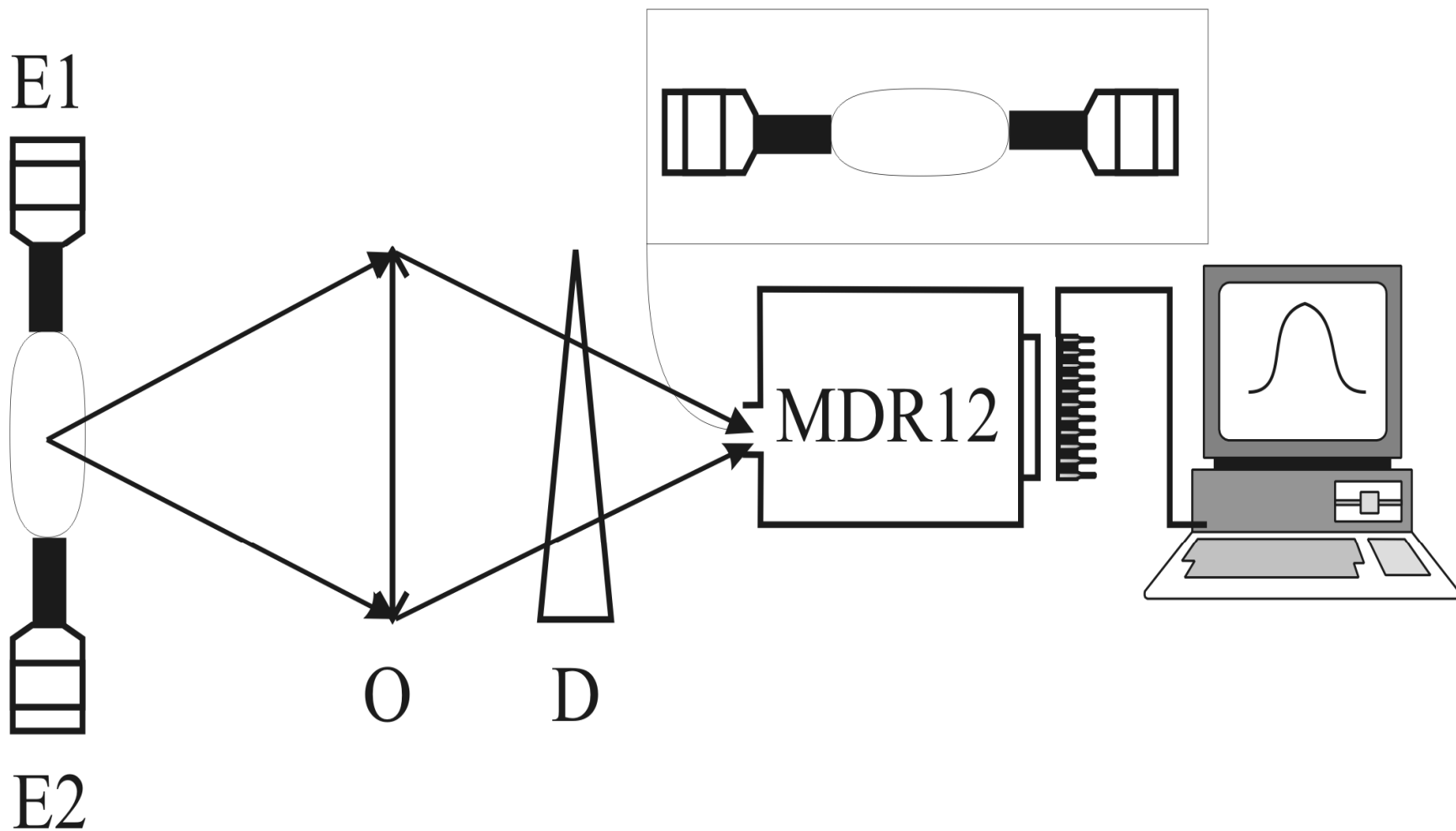
SHAPES OF SPECTRAL LINES OF NONUNIFORM PLASMA OF ELECTRIC ARC DISCHARGE BETWEEN COPPER ELECTRODES

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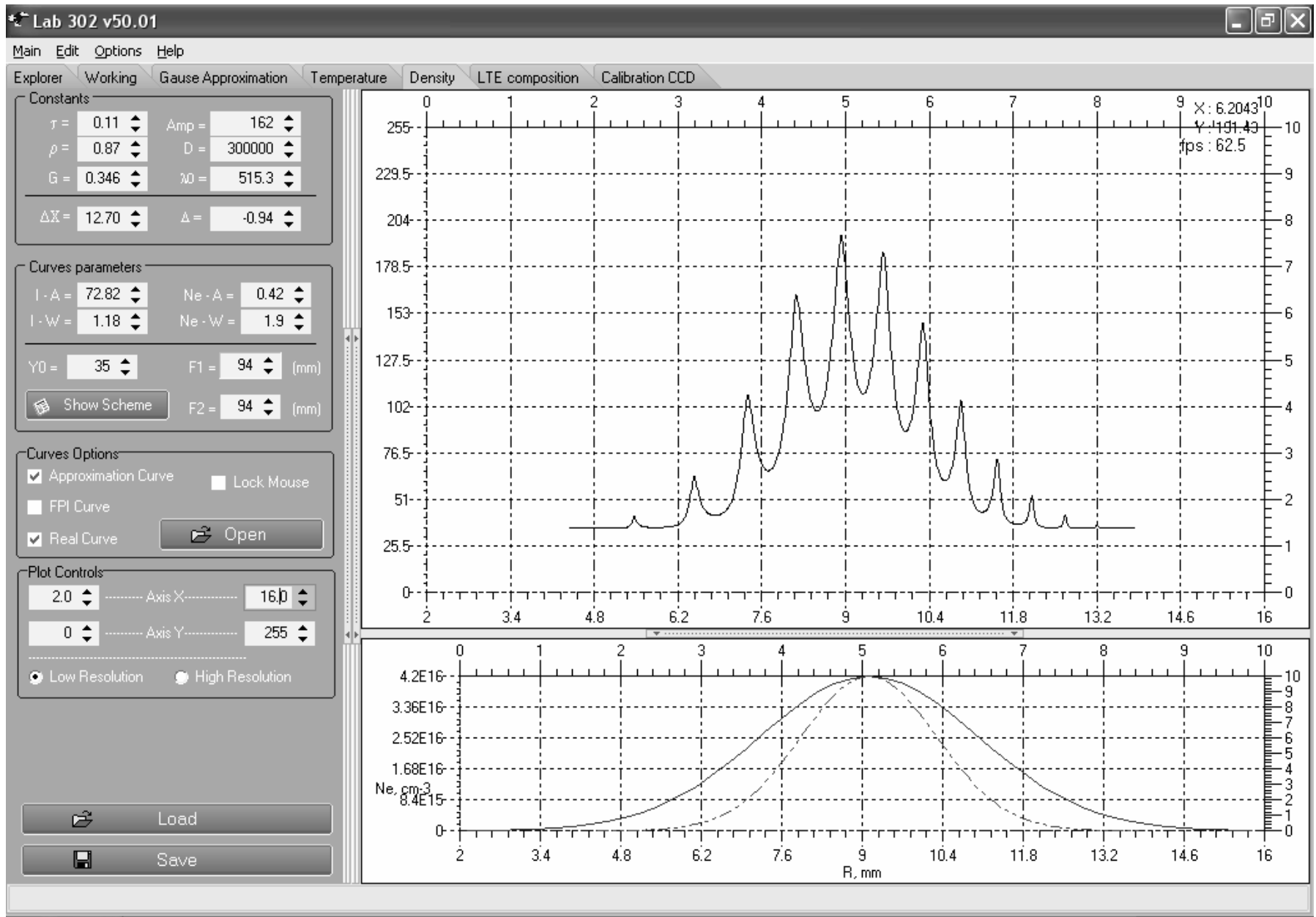


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EXPERIMENTAL SETUP



The example of program interface

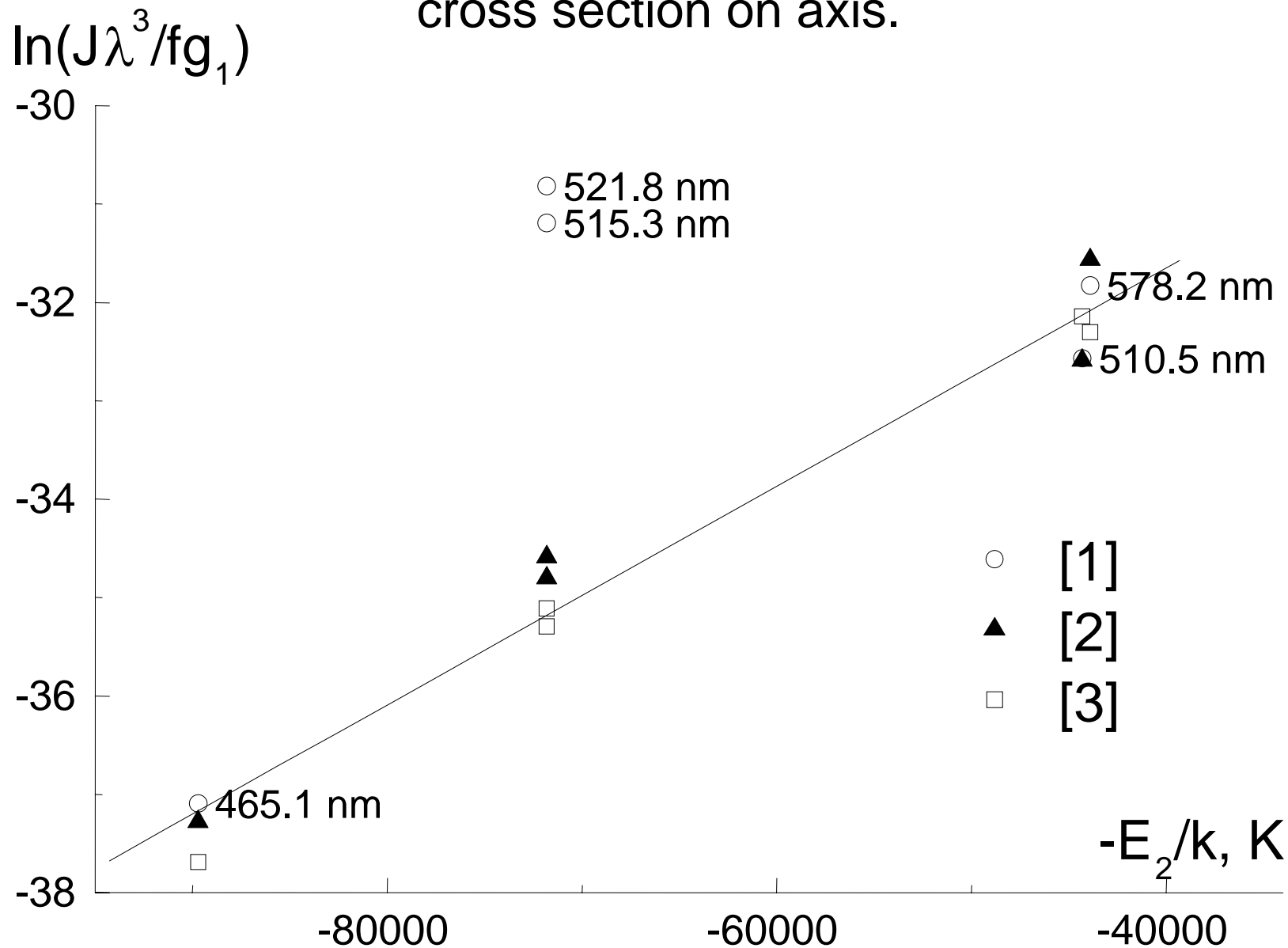


Spectroscopic data $f \cdot g_1$

λ , nm	[1]	[2]	[3]
465.11	0.990	1.190	1.800
510.55	0.031	0.031	0.020
515.32	0.098	0.939	1.900
521.82	0.520	1.761	2.400
578.21	0.017	0.013	0.027

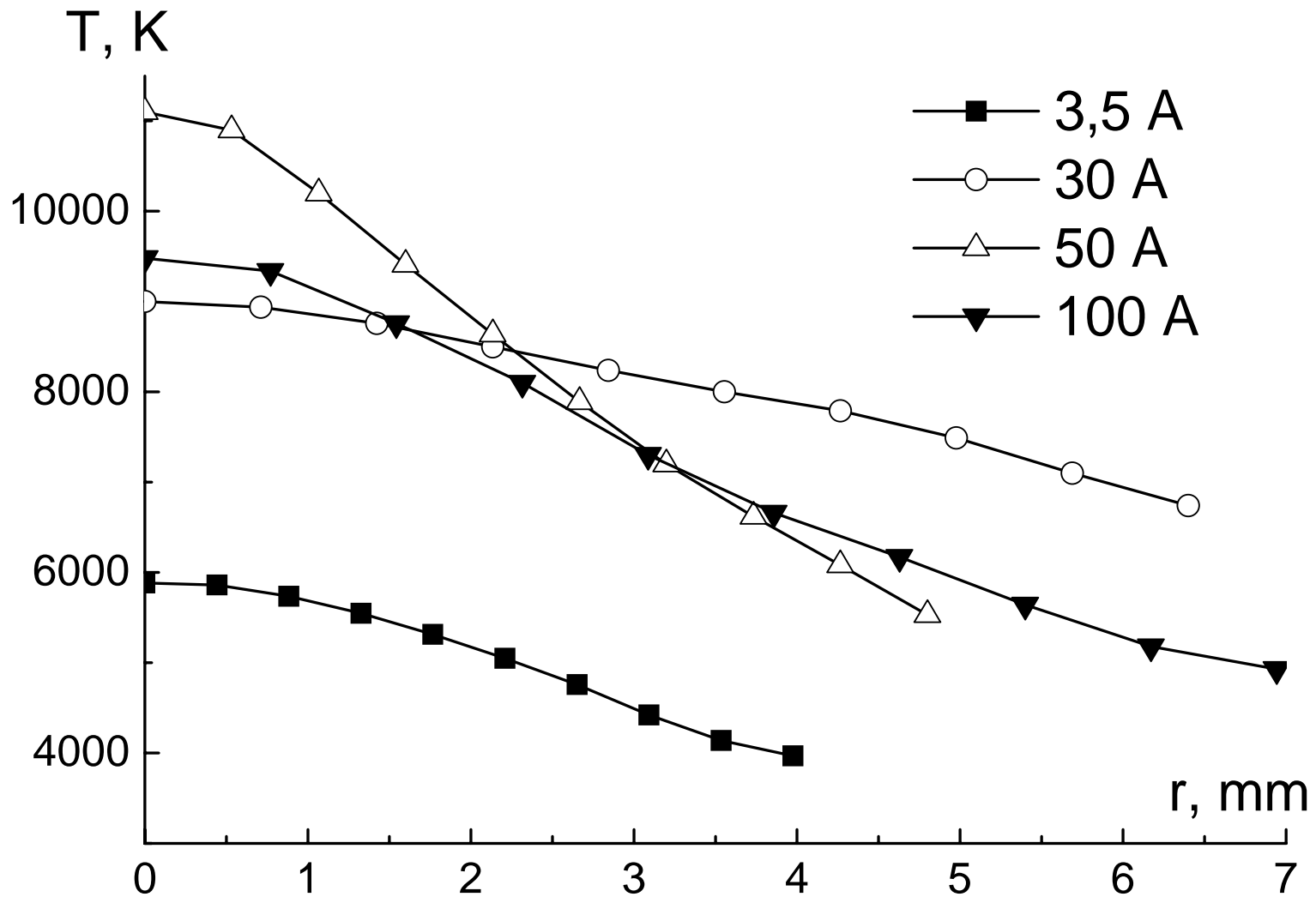
1. G. A. Kasabov and V. V. Eliseev, *Spectroscopic tables for low temperature plasma* [in Russian], Moscow: Atomizdat, 1973, pp. 114-122.
2. A. G. Shenstone, *Phil. Trans. Roys. Soc.* **241**, p. 297 (1948), http://physics.nist.gov/PhysRefData/ASD/lines_form.html, accessed June 6, 2007.
3. C. H. Corliss and W. R. Bozman, *Experimental Transition Probabilities for Spectral Lines of Seventy Elements Derived from the NBS Tables of Spectral Line Intensities; The Wavelength, Energy Levels, Transition Probability, and Oscillator Strength of 25,000 Lines Between 2000 and 9000A for 112 Spectra of 70 Elements* [Russian translation], Moscow: Energoatomizdat, 1962, pp. 80-81.

Boltzmann plot the case $I=30A$ and $l_{ak}=8mm$ in average cross section on axis.

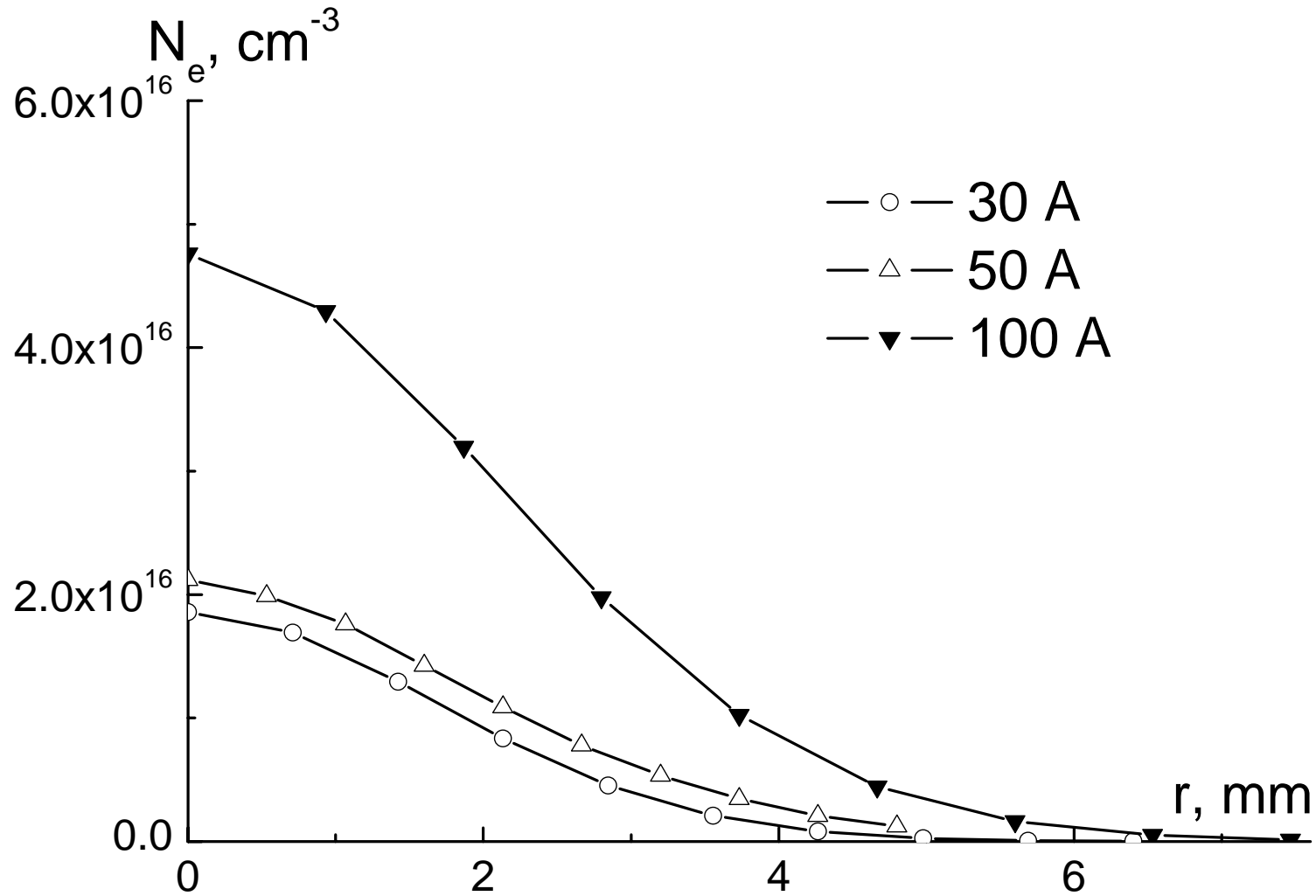


T(r), Boltzmann plot

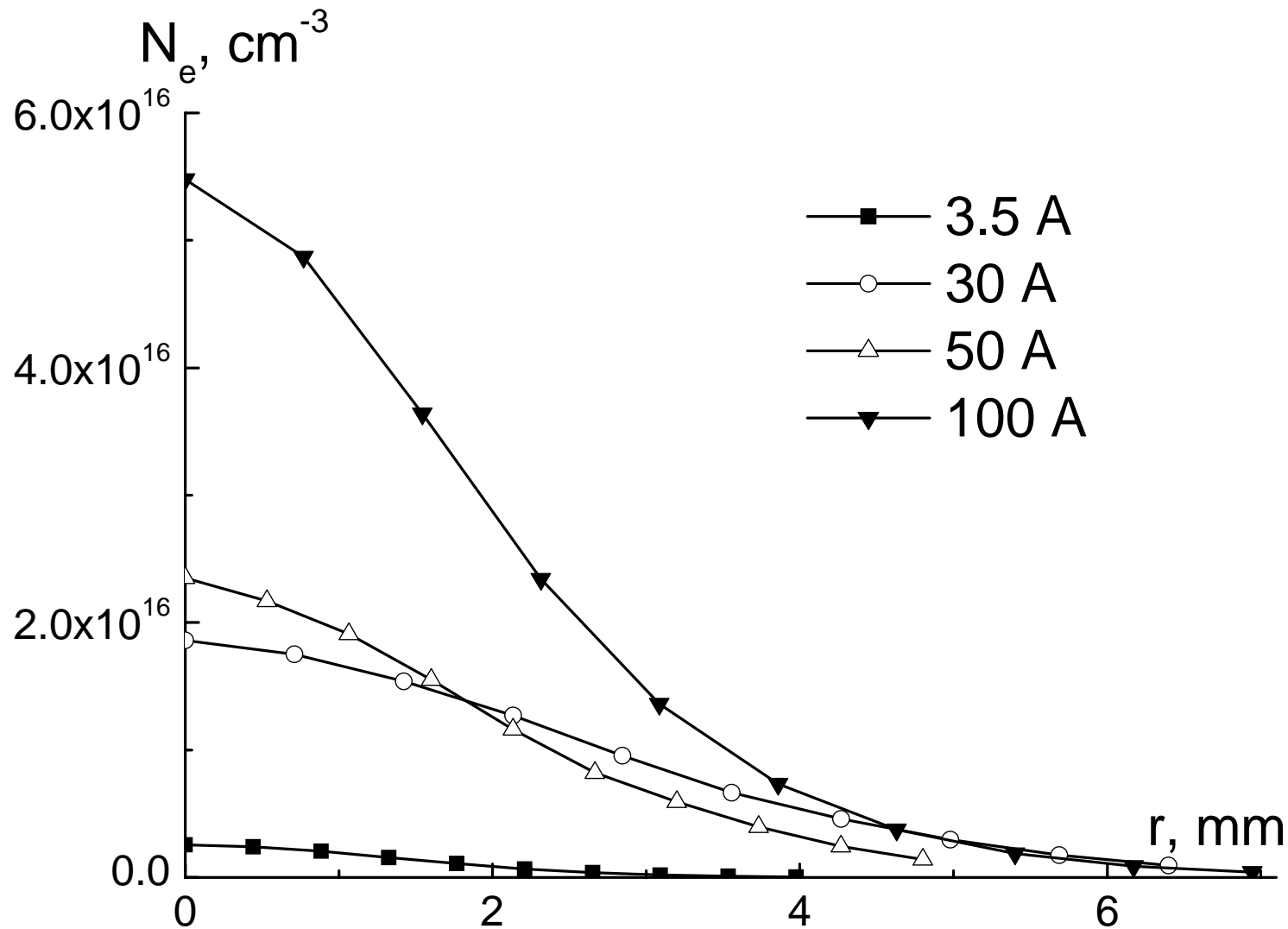
8mm average cross section



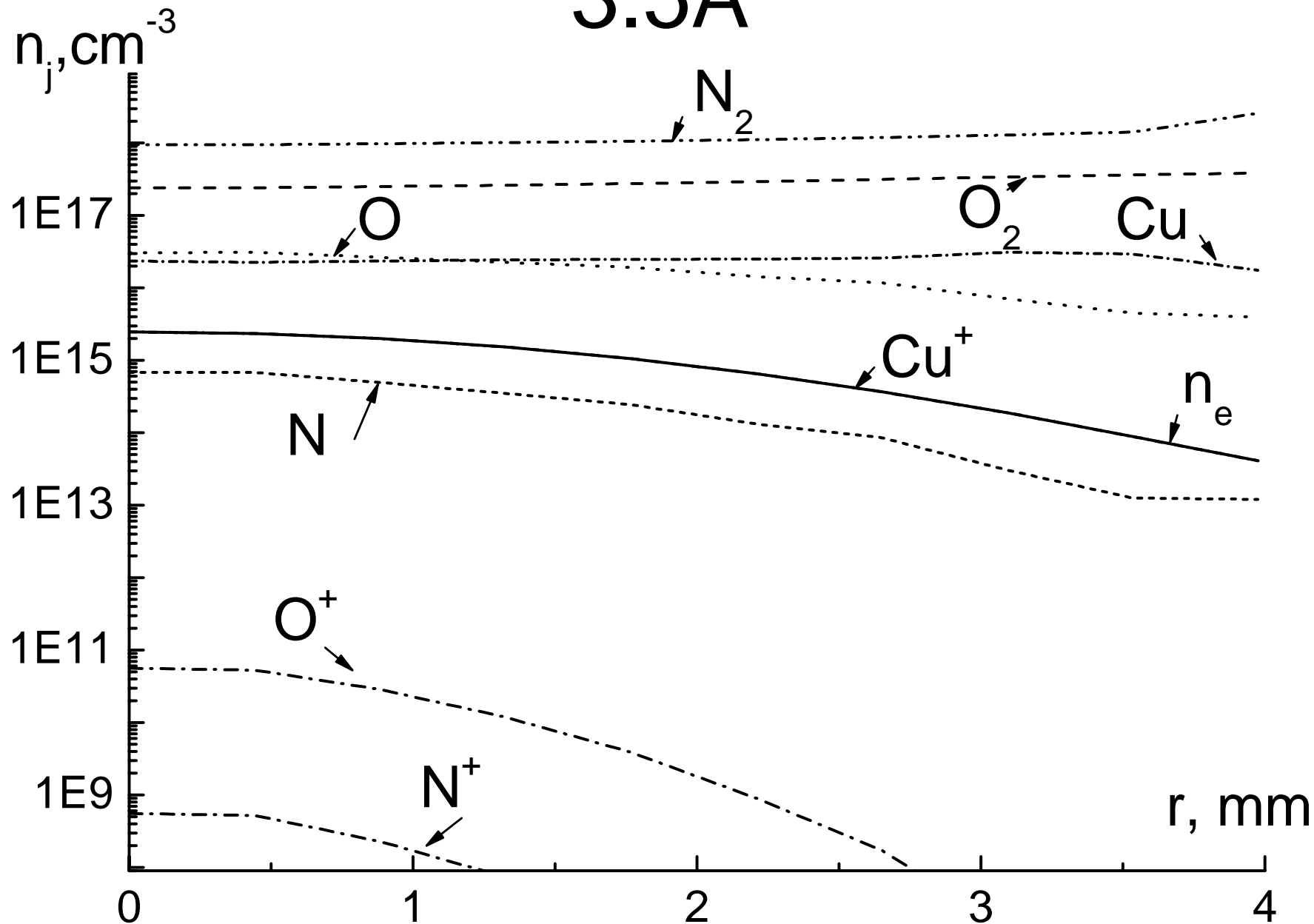
Obtained from spectral line width (CuI 515.3nm)



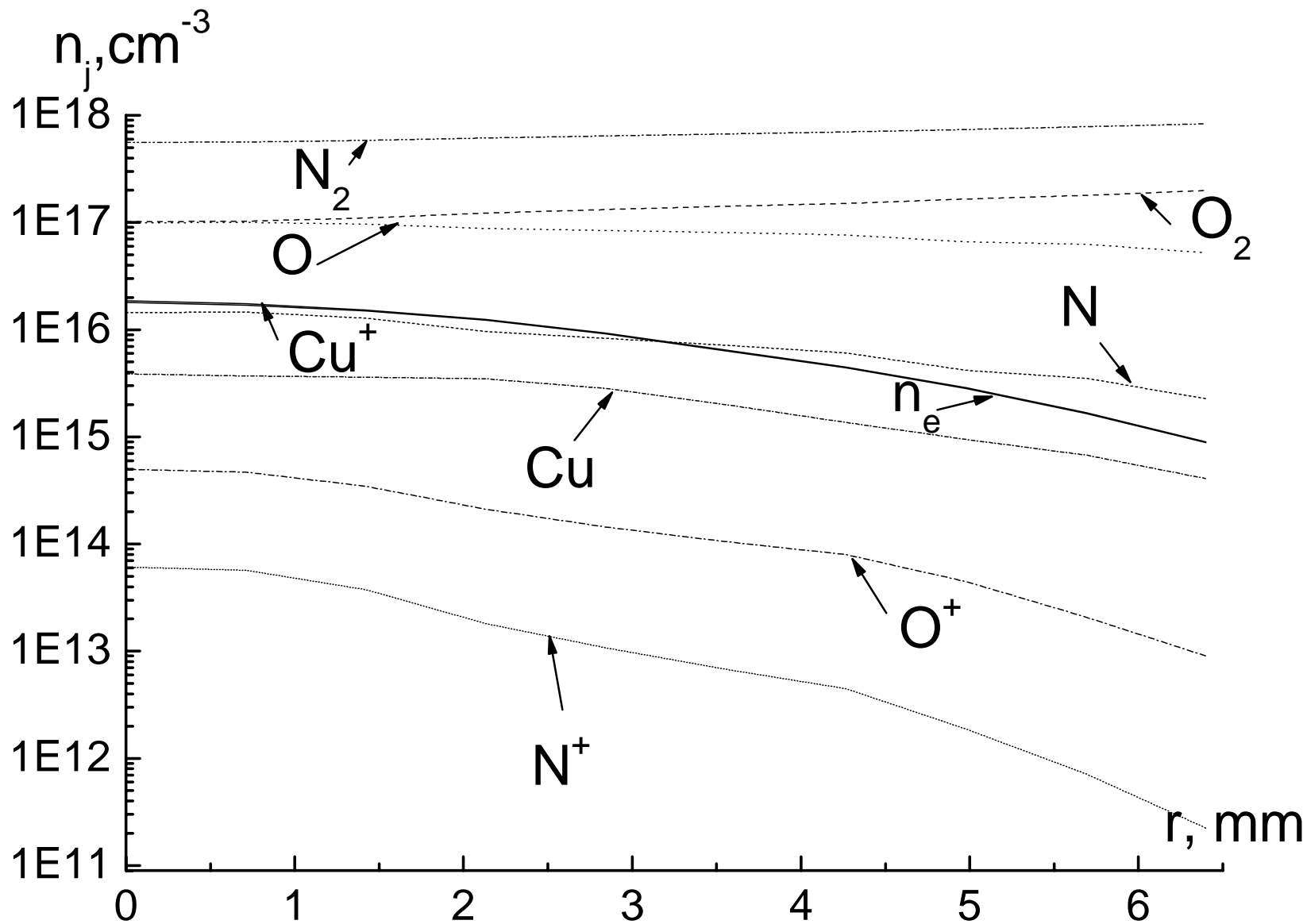
Obtained from absolute spectral intensity line (CuI 465.1 nm)



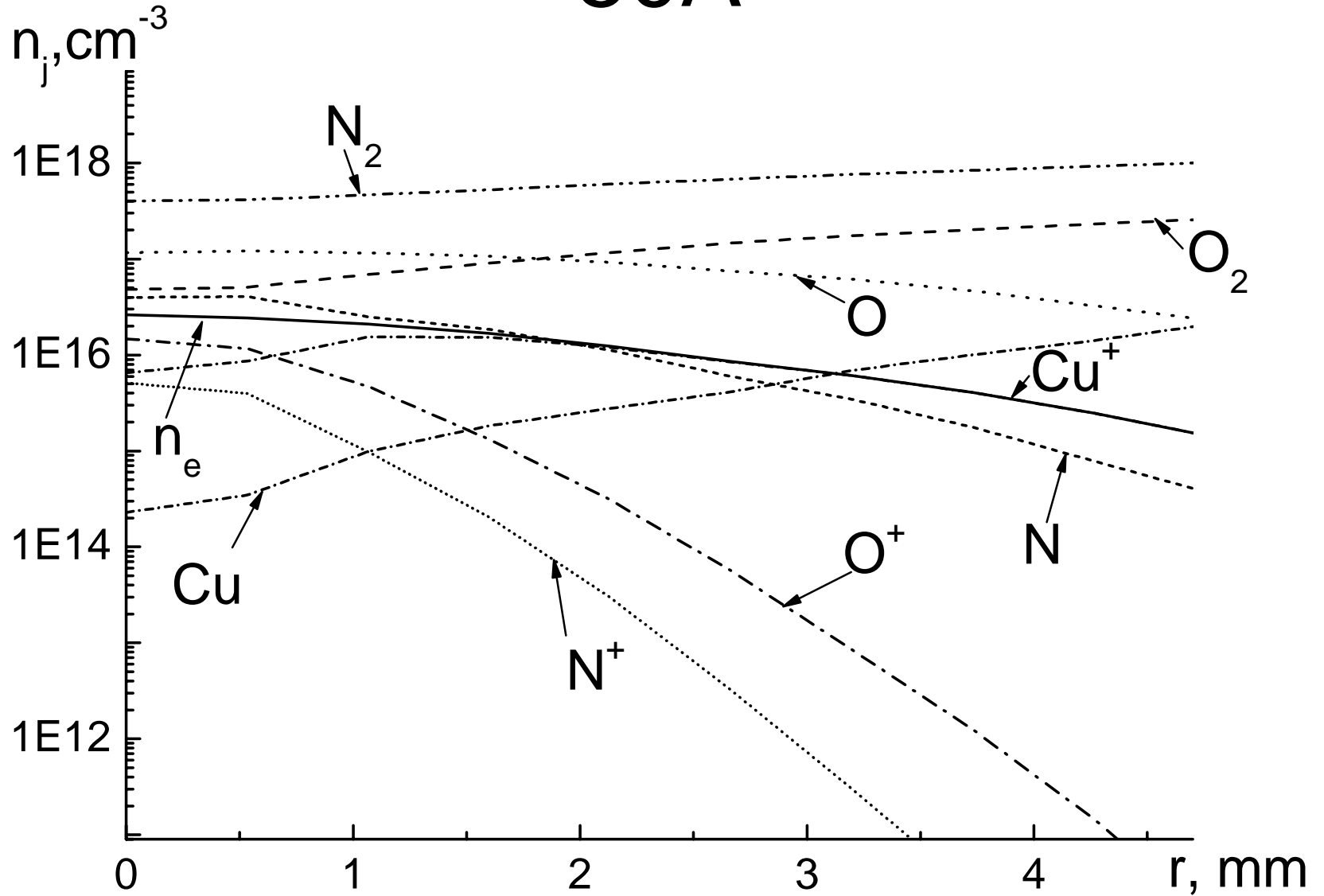
3.5A



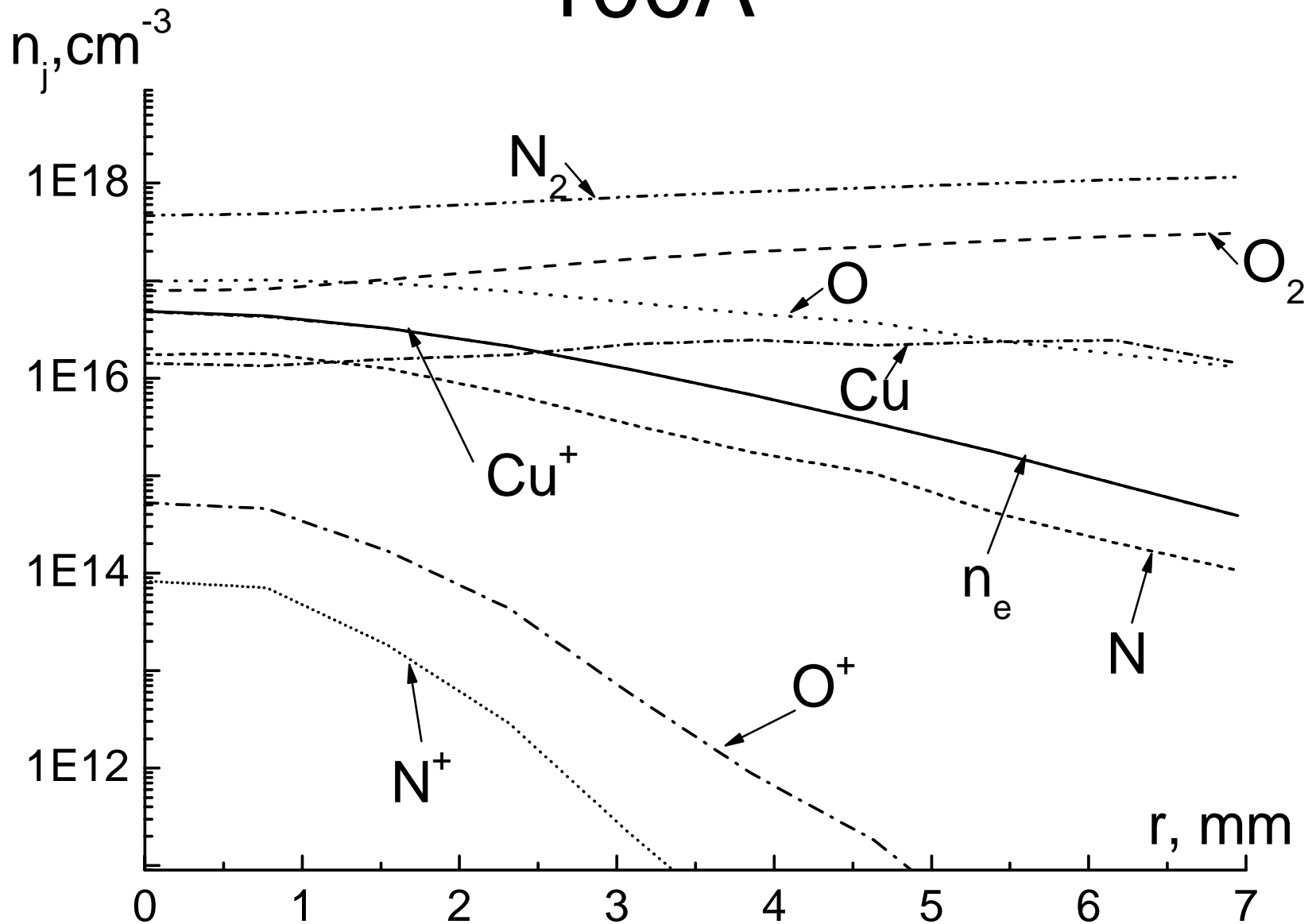
30A



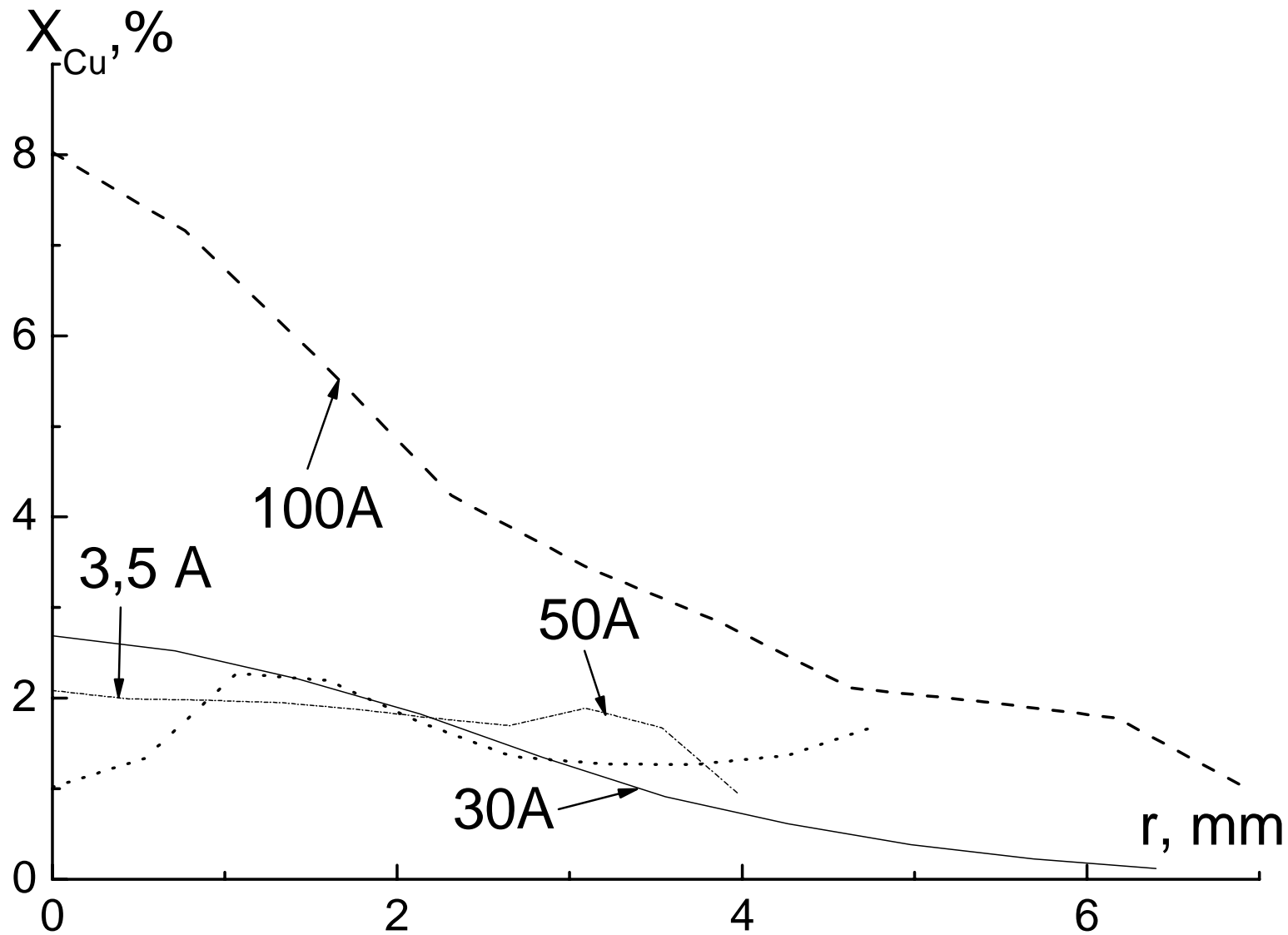
50A



100A



Cu vapour



Thank you for attention