

Abstract Submitted
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An Upwarming Effect in Rarefied RF Plasma Stream at Low Pressure¹ VIKTOR ZHELTUKHIN², Kazan National Research Technological University, ALEXANDER SHEMAKHIN³, Kazan Federal University, ALBERT KHUBATKHUSIN⁴, Kazan National Research Technological University — A mathematical model of the RF plasma flow at 13.3-133 Pa in transition regime at Knudsen $8 \times 10^{-3} \leq Kn \leq 7 \times 10^{-2}$ and the nozzle pressure ratio $n = 10$ for the carrier gas is described. The model based on both the statistical approach to the neutral component of the RF plasma and the continuum model for electron and ion components. The results of plasma flow calculations performed both for the free flowing and for the sample overflowing at a prescribed electric field are described. The effect of a warming up of a stream in a mixture zone confirmed by comparison of numerical results with experimental ones is found.

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