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**Imaging spectrometer based on Fabry-Perot interferometer** ALEKSANDR KRAVCHENKO, ANATOLY KHAKHAEV, LIDIA LUIZOVA, ALEKSEI SOLOVEV — The aim of this work is to construct a research complex, which will allow to investigate spatial distribution of parameters of inhomogeneous plasma such as distribution of atomic temperature, density of atoms in different states and others by spectrum line profiles in certain parts of plasma; and then to investigate real plasma sources to determine their parameters and internal processes. In our setup, the light from the source, placed in a focus of focusing lenses, passes through the Fabry-Perot interferometer. The superposition of a source image and interference rings is drawn by the drawing lenses on the entrance slit of the spectrometer. In this setup, the spectrometer is used for picking out a definite spectral line. Having carried out the experiment with interferogram obtainment, we try to model interferograms obtained in the experiment. We set desired plasma characteristics using models with few parameters and calculate light intensity distribution along the entrance slit of the spectrometer taking into account the spread function of the Fabry-Perot interferometer. Varying parameters, we achieve the best agreement between experimental and calculated light intensity distribution.

  

Prefer Oral Session  
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Aleksandr Kravchenko  
aleksandr@sampo.ru

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