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Spread function of real Fabry-Perot interferometer in imaging spectroscopy of inhomogeneous plasma[1] ALEKSANDR KRAVCHENKO, LIDIA LUIZOVA, ALEKSEI SOLOVEV, Petrozavodsk State University — Working in the field of imaging spectroscopy of inhomogeneous plasma by spectrum line profile, we had found what additional parameters of real Fabry-Perot interferometer (FPI) impacts on its spread function. These parameters are parallelism degree and quality of polishing of the mirrors. But it is very difficult to model impact of these parameters on ideal mathematical FPI, because discreet model can describe very well alteration of the interferometer base. But, if we will integrate over surface of the mirror in this model, we will find two extra effects: different reflection angles in different points of the mirrors, caused lack of parallelism of the mirrors and wave refraction, caused differences between optical densityes of the mirror's material and of the air. It is very important do describe as minimum this three effects, impacts on spread function of the interferometer, because even 100 nanometers FPI base differences in opposite parts of the mirrors may make interferometer impossible for usage. In our last research we try to make a model of real FPI, when it uses in imaging spectroscopy equipment.

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