

EMISSION/ABSORPTION BANDS IN OPTICAL AND
VUV SPECTRA OF PARTIALLY IONIZED PLASMA
GENERATED BY ION-ATOM COLLISIONS

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In this lecture we will consider the origin of specific emission/absorption bands in EM spectra of partially ionized laboratory and astrophysical plasmas. Such bands are located in the optical part of the spectrum and are generated by the radiative ion-atom collisional processes. The shape of such bands in relation with the situation that we have symmetrical, weakly asymmetrical or pronounced asymmetrical ion-atom collisions, will be discussed. Also, we will analyse the role of plasma composition in connection with the influence of considered ion-atom processes on the plasma EM spectra. In connection with the laboratory plasmas, the possibility of the use of these processes for diagnostic purposes by probing a plasma with an intermediate energy ion beam, will be considered.