KAPPA-DISTRIBUTIONS AND O III - O VI SPECTRA - EFFECTS AND DIAGNOSTIC PROPOSAL FOR SPICE

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We analysed effects of kappa-distributions on the O III - O VI line intensities observable by the SPICE instrument onboard Solar Orbiter to provide possible non-Maxwellian diagnostics. Synthetic spectra for the kappa-distributions with different kappa, electron density, and temperatures were calculated using the KAPPA package corresponding to the CHIANTI 8.0 software and database. Our calculations showed that the Oxygen line ratios observable by SPICE are generally not sensitive to the electron density and presence of the radiative field. Several combinations of lines give a possibility to diagnose the kappa-distributions.