Determination of K, Ar, Cl, S and Si flare abundances from RESIK soft X-ray spectra

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We investigate possible variability of coronal plasma composition during flares based on the analysis of spectra measured by RESIK bent crystal spectrometer aboard the CORONAS-F solar mission. We fit the measured spectra with synthesized theoretical ones in the vicinity of the observed He-like ions. The spectral synthesis is performed based on CHIANTI v5.1 spectral code in so-called ‘‘locally isothermal approximation” with the aim to reproduce observed line-to-continuum ratios. Influence of possible multitemperaure plasma structure is considered and discussed based on respective differential emission measure calculations.