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On the Application of Differential Evolution Method to the Analysis of X-Ray Spectra

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We propose the new approach in which the elemental plasma composition can be determined simultaneously with the distribution of differential emission measure (DEM). For this purpose we use the differential evolution (DE) method. We investigate the abundances of K, Ar, S and Si and DEM distributions for the flare on 21 January 2003 observed by RESIK in the soft X-ray range. Before applying the DE to the analysis of real observations we performed numerous tests of its usefulness. The results of these tests as well as the abundances of elements determined for the 21 January 2003 flare will be presented and discussed.

Student poster?

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