Differential Emission Measure analysis using a probabilistic approach to the XRT data

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Abstract.   In this work we test and apply an iterative method for a differential emission measure (DEM) analysis of EUV and Soft X-ray imaging data. This method is based on a probabilistic approach to the inverse problem of spectroscopy and obtained in a regular way by means of the Bayes' theorem (Bayesian Iterative Method, BIM). Temperature diagnostics of coronal plasma in active regions (AR) have been carried out by means of the DEM analysis inferred from Soft X Rays imaging data (Hinode/XRT). The temperature profiles were obtained with the BIM technique. Tests of the method's performance will be presented together with the application to the AR data analyzed by Reale et al. 2009, where multi-filter ratio diagnostic method was applied. We show that the results obtained by the two techniques are in agreement.