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Statistical survey of UV compact bursts observed by IRIS

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UV compact bursts (CBs) are observed by IRIS in both NUV and FUV channels. They appear as small and intense short lifetime brightenings visible in solar active regions. Some of them can be connected with well-known Ellerman bombs and IRIS bombs.

Our interest in CBs was initiated by the paper published by Grubecka et al. (2016), in which we modelled 5 different selected CBs observed in Mg II h and k lines. Next goal is to investigate statistical diversity of Mg II h and k lines of CBs and their visibility in far UV lines such as Si IV, C II and in Mg II triplet. In order to achieve goals, in IRIS database we searched for dense rasters of active and emerging flux region containing spectra in Mg II, C II and Si IV. Next step was to create spectroheliogram for each raster in which we were searching for CBs with the size of the order of 1".

We performed survey of 2053 CBs using some of the parameters of the Mg II k line profile: contrast in characteristic profiles points and FWHM. We used also some parameters of Si IV, C II and Mg II UV triplet lines. This analysis allows us to categorize CBs as in Grubecka et al. 2016. We also have searched for correlations between the emission in Mg II lines and hotter Si IV line in order to find which of events are linked to IRIS bombs, UV burst or Ellerman Bombs.

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