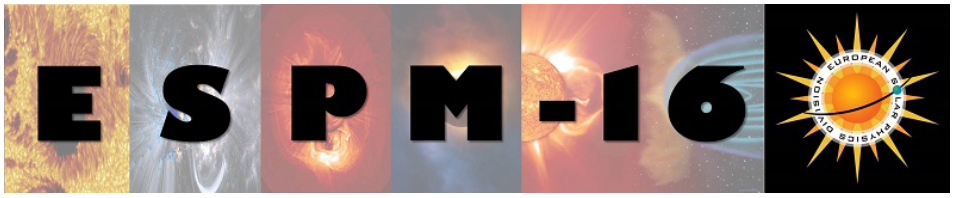

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Geometry and dynamics of cool UV flare loops observed by IRIS

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We present analysis of IRIS ultraviolet observations of cool loops visible after the maximum of M6.5 solar flare on June 22, 2015. The detailed investigation of the physical parameters and models of these loops was presented in Mikuła et al. (2017). The line profiles were modeled using Cloud Model and this allowed us obtaining the reliable physical parameters characterizing the moving plasma inside loops, e.g. velocity along the line-of-sight. Here we present the next step of the work - the reconstruction of the shape of the analyzed flare loops. The geometric method, that allows us to reconstruct the true shape of loops was introduced by Loughhead, Wang and Blows (1983). Based on the two-dimensional images of a given structure located on the solar disk or at the solar limb, we can obtain their true orientation and size. The shape of the analyzed loops was determined mainly from images obtained by IRIS, supplemented with SDO/AIA 171 ang. data in some cases. Using basic geometry and some assumptions we reconstructed geometrical parameters of the loop system and we could present them in three-dimensional space. Thanks to simple calculations based on method presented in Loughhead and Bray (1984) we could also get so-called true velocity of down-flow/up-flow of plasma, i.e. velocity along the axis of the loops. The obtained results for each loops were compared with the corresponding free fall velocities on the Sun.

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