## Analysis of flare processes evolution and changes in the polarization of fine structures of solar radio emission

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For the first time, solar radio spectral fine structures in a M6.5 flare on April 11, 2013 were observed simultaneously by several radio instruments at four distant observatories: Chinese Solar Broadband Radio Spectrometers (SBRS) at Huairou, Czech spectrographs/Ondřejov, spectrograph/Badary (Irkutsk), and spectrograph/IZMIRAN (Moscow, Troitsk). These fine structures (zebra patterns and fast pulsations) were observed during the flare brightening located at tops of a loop arcade as shown by the extreme ultraviolet (EUV) telescope on board NASA's satellite Solar Dynamics Observatory (SDO) images. During the event the polarization was different in each appearance of the fine structure and even of different signs. The dynamics of the polarization was related with motions in the flare, which were observed in EUV lines 171 Å and 131 Å by the SDO Atmospheric Imaging Assembly (AIA). Using SDO/HMI magnetograms, in all possible cases and under an assumption that the EUV flare brightenings correspond to zebra radio sources, we found that the polarization of the observed zebra patterns correspond to the ordinary radio emission mode. In the 24 February 2011 limb event we observe for the first time the radio source of the zebra pattern in the microwave range at the bases of flare loops under the X-point of magnetic reconnection. These data are very valuable for the selection of the theoretical model of the zebra pattern.