Fine structure of microwave emission as manifestation of dynamic magnetohydrodynamic processes in the flare loops.

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It is generally known, that the bursts of coherent narrow-band radio emission are generated by beams of accelerated electrons propagation along the flare loops. As the corollary, analysis of their observations allows to receive information both about parameters of beams, and about a propagation medium. The features of a fine structure in a decimeter range have allowed allocating the area of the electron acceleration during the elementary acts of energy release, to study variations of plasma density along the flare loops, effects caused by the evaporation waves. In the given work the dynamic spectrum structural elements of short pulses are analyzed in a centimetric range; where their properties are essentially differ on velocities of a drift, spectral bandwidth, and temporal scales of the U and M type bursts. There is a great advantage of observations in a centimetric range, in which it is the possible to observe the fine temporary structures with spatial (Siberian solar radio telescope, 5.7 GHz) and spectral resolution (spectropolarimeters NAOC) simultaneously. It allows getting independent information about a parameters of magnetic flare loops and plasma parameters in coherent pulse emission sources, and to verify conclusions of dynamic spectrum analysis. In the report the influence to dynamic spectrum peculiarities of such magnetohydrodynamic processes, as oscillations of magnetic loop structures and fast plasma density variations within the sites of primary energy release is discussed.

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