Bizarre Spectral Fine Structures of Solar Radio Bursts

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In radio observations of some solar flares, it is frequently observed that there are some very strange and very complex spectral fine structures which are short-lived strong emission and much different from the previous known spectral structures (type I, II, III, IV and V bursts, zebra, fiber, QPP, spikes, etc.), some of them are complex distorted Zebra patterns, some of them are completely bizarre with complicated structures, and some of them are in most strange pattern on the spectrogram. So far, we do not know exactly their formation mechanism and their detailed physical processes. In this report, we investigate the observed underlying conditions of these bizarre solar radio spectral fine structures in several flares, and try to obtain some possible common features among them. With these results we attempt to analyze their formation mechanism and the implications for solar flares.