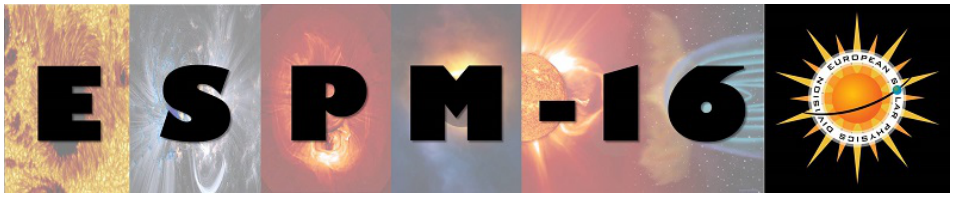

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Power distribution of oscillations in plage region: Joint observations from ALMA, IRIS and AIA

Wednesday, 8 September 2021 17:35 (13 minutes)

We present a statistical analysis of power distribution of oscillations in plage of the active region NOAA AR12651, observed jointly with ALMA, IRIS, and AIA. We employ coordinated ALMA Band-6 (1.25 mm) brightness temperature maps, IRIS images in 2796 Å passband, and observations in six AIA passbands (1600 Å, 304 Å, 131 Å, 171 Å, 193 Å, and 211 Å). We study the spatial association of oscillations over the atmosphere mapped by these different passbands, focussing on the correlation of power distribution of ALMA oscillations with others. We do not observe any significant association of ALMA oscillations with IRIS and AIA oscillations. The spatial distribution of dominant periods and power in different period intervals of ALMA oscillations is observed to be uncorrelated with any other passband. We attribute the non-association of ALMA oscillations with those of IRIS and AIA to the significant variation in the height of formation of the millimeter continuum observed by ALMA.

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