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The effect of a solar flare on chromospheric oscillations

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Chromospheric oscillations with durations of approximately 3 minutes are prominent and thought to be related to the acoustic cut-off frequency of the medium. Here we used data from the CRISP instrument at the Swedish Solar Telescope and the Solar Dynamics Observatory to investigate intensity oscillations in an active region around the time of an M-class flare. Power spectrum fitting was used to characterise the locations and typical periods of the oscillations. Comparing results from before and after the impulsive phase of the flare, both the locations of the oscillatory signals and their typical periods were seen to change, with some periods seen to increase from ~100s to ~200s. The cut-off frequency can be linked to the magnetic field inclination, meaning these results could reveal how the flare has changed the magnetic environment in this active region.

Student poster?

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