

PHOTOSPHERIC FLARE FOOTPRINTS

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We analyse the 6 mHz egression power signatures of some X-class acoustically active solar flares. During the impulsive phase these flares produced conspicuous seismic signatures which have kernel-like structures, mostly aligned with the neutral line of the host active region. The kernel-like structures show the effect of constructive interference of the acoustic waves emanating from the complex source, suggesting motion of the acoustic sources. The co-alignment between the seismic signatures and the hard X-ray emission observed by RHESSI from the footpoints of the coronal loops suggests a direct link between relativistic particles accelerated during the flare and the hydrodynamic response of the photosphere during flares.