

A FAST DETECTION ALGORITHM FOR CORONAL OSCILLATIONS

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The corona is known to support several different types of oscillation modes. At present, the initial detection of oscillating material relies on the manual selection and analysis of EUV imaging datasets that previous experience has shown are likely to support coronal oscillations. Whilst this form of analysis is successful, the Solar Dynamics Observatory (SDO) mission will vastly increase the amount of available data, making this approach impractical. We present an algorithm which can quickly identify regions in EUV imaging data that contain oscillations, along with an oscillation frequency probability. The algorithm is demonstrated on TRACE data. We also comment on the need for other automated feature detection algorithms, for example active region and loop feature detection algorithms, as an important but distinct component in finding oscillating structures in large EUV images of the type which will be generated by SDO.