Investigation of Solar Flare Dynamics using Aditya-L1/SUIT

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Solar flares are sudden releases of magnetic energy in the solar atmosphere, exhibiting complex temporal and spatial evolution. In this study, we analyze high-resolution observations from the Solar Ultraviolet Imaging Telescope (SUIT) onboard Aditya-L1 to investigate the dynamics of solar flares across multiple narrow spectral bands. Our primary focus is to measure the time lag between flare peaks in different SUIT channels, providing insights into energy transport and heating processes in the solar atmosphere. By correlating flare signatures across wavelengths, we aim to better understand the sequence of events during flare evolution and the underlying physical mechanisms driving these energetic phenomena.