Katlego
Makgatle
Prof Martin Snow
Poster
Solar flares are powerful, sudden bursts of energy from the Sun than can disrupt the Earth’s ionosphere, affecting communication systems. Precisely predicting the duration of the solar flares is important for reducing their impacts on high-frequency radio communications. This research focuses on developing a Python based analytical tool to estimate solar flare duration using data from the GOES-16 satellite. The study involves extracting and processing X-ray flux data, identifying individual flare events, and applying exponential fitting techniques to model flare decay. By comparing different statistical and machine learning methods, this research aims to improve the accuracy of flare duration predictions and contribute to real-time space weather forecasting.

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