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Flares on solar-type stars

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In my talk I will present a statistical study of flares on solar-type stars based on TESS (Transiting Exoplanet Survey Satellite) observations. We used a two-minute cadence data obtained from sectors 1 - 36. Our software allows us to identify flares and determine its parameters such as: amplitude, duration, growth and decay times. Furthermore, we estimate the maximum luminosity and total energy of flares in two different methods. In the first two years of TESS observations, we already identified about 14000 flares from more than 4000 solar-type flaring stars. Based on bolometric flare energy distribution, we conclude that its energies range from 10^{32} to 10^{37} erg, with an average energy of 10^{34} erg. Our study suggests that there are two types of flare events, described by different profiles.

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