ENERGY RELEASE AND PARTICLE ACCELERATION IN THE 25TH CYCLE SOLAR FLARES: JOINT OBSERVATIONS WITH NEW RUSSIAN AND CHINESE INSTRUMENTS

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Studying the solar flares and other active processes on the Sun requires comprehensive observations in different spectral ranges. Recently, several new solar-oriented astronomical instruments have been put into operation, including the Siberian Radioheliograph and spectrometers of the Chashan observatory (in the microwave range), the Hard X-Ray Imager on board the Advanced Space-based Solar Observatory (in the X-ray range), etc. Since 2023, these instruments have observed simultaneously a number of solar flares, including the series of events related to geomagnetic superstorms in May 2024.

In this talk, I present the examples of observations that demonstrate the capabilities of the new instruments. I also discuss how the new observations can be used to analyze the processes of energy release and particle acceleration and transport in solar flares.