

PEM021-01

Room: Function Room A

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## Solar Activities in the Current Solar Cycle (cycle 24): the lowest activity level in one hundred years

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The number of sunspots is approximately periodic, going from minimum to maximum and back to minimum again nearly every 11 years. Solar activities, such as flares and filament eruptions, which have various effects to the Space Weather, occur near sunspots (in active regions).

The last solar cycle (cycle 23) started in 1996, reached to the maximum around 2001, and became to a decaying phase. The sunspot numbers in the new cycle (cycle 24) from January 2008 did not increase for more than ten months. Some newspapers reported the news that number of sunspots were still small after starting new solar cycle. The number of spotless days in 2008 and 2009 are 265 days and 261 days, respectively. These are the 6th and 7th large number of spotless days from 1818. The activity level is the lowest in one hundred years (spotless days in 1901: 287 days, in 1902: 257 days). In the last half of 2009, prominence/filament eruptions and C-class flares sometimes occurred and The spotless days per month decreases in these months. The first M-class flare was observed in January 2010 in the active region belong to this solar cycle (cycle 24).

In this talk, we report this cycle solar activities, such as sunspot number, flares, etc., comparing with activities in previous cycles. We also introduce images and movies of the active regions belong to cycle 24, obtained with Solar Magnetic Activity Research Telescope (SMART) at Hida Observatory, Kyoto-U. etc..

Keywords: Sun, sunspot, solar cycle