

Astronomy

FINDINGS

PT3: Solar Flares PT2

UltimateS79

Introduction

This Blog is the Continue of Part 2 if you haven't seen it pls read it in our website

www.myblogsmultiverse.com

- Types of solar flares (Part 2)
- Some Important Solar Flares Events
- Suns Activity

Types Of solar flares:

We have 2 types of classification that the newer modern one the X-class and the first type the H-alpha

We said about the X-class classification so now we say some points about it:

The strength of an event within a class is noted by a numerical suffix ranging from 1 up to, but excluding, 10 which is also the factor for that event within the class. Hence, an X2 flare is twice the strength of an X1 flare, an X3 flare is three times as powerful as an X1, and only 50% more powerful than an X2. An X2 is four times more powerful than an M5 flare. X-class flares with a peak flux that exceeds 10^{-3} W/m^2 may be noted with a numerical suffix equal to or greater than 10.

H-Alpha Classification

An earlier flare classification was based on H-alpha spectral observations. The scheme uses both the intensity and emitting surface. The classification in intensity is qualitative, referring to the flares as: faint (**f**), normal (**n**) or brilliant (**b**). The emitting surface is measured in terms of *millionths* of the hemisphere and is described below.

Classification	Corrected area
S	<100
1	100-250
2	250-600
3	600-1200
4	>1200

Important Solar Flare Events

The most powerful flare ever observed is thought to be the flare associated with the 1859 Carrington Event. While no soft X-ray measurements were made at the time, the magnetic crochet associated with the flare was recorded by ground-based magnetometers allowing the flare's strength to be estimated after the event. Using these magnetometer readings, its soft X-ray class has been estimated to be greater than X10.^[1] The soft X-ray class of the flare has also been estimated to be around X50. In modern times, the largest solar flare measured with instruments occurred on 4 November 2003. This event saturated the GOES detectors, and because of this its classification is only approximate. Initially, extrapolating the GOES curve, it was estimated to be X28. Later analysis of the ionospheric effects suggested increasing this estimate to X45.^[2] This event produced the first clear evidence of a new spectral component above 100 GHz. Other large solar flares also occurred on 2 April 2001 (X20+),^[3] 28 October 2003 (X17.2+ and 10),^[4] 7 September 2005 (X17),^[5] 9 August 2011 (X6.9),^[6] 7 March 2012 (X5.4),^[7] and 6 September 2017 (X9.3).

Suns Activity

- The Sun's Yesterday (2023/8/27) Activity was moderate and also released some flare
One M Type flare and 4 C types,
And The Most Powerful one is the M type that is M1.1

For today (2023/8/28) the chances for solar flares are 90% C type 20% M type 5% X type And a 5% other types



Thank you

Source:

Wikipedia

EarthSky

brain