
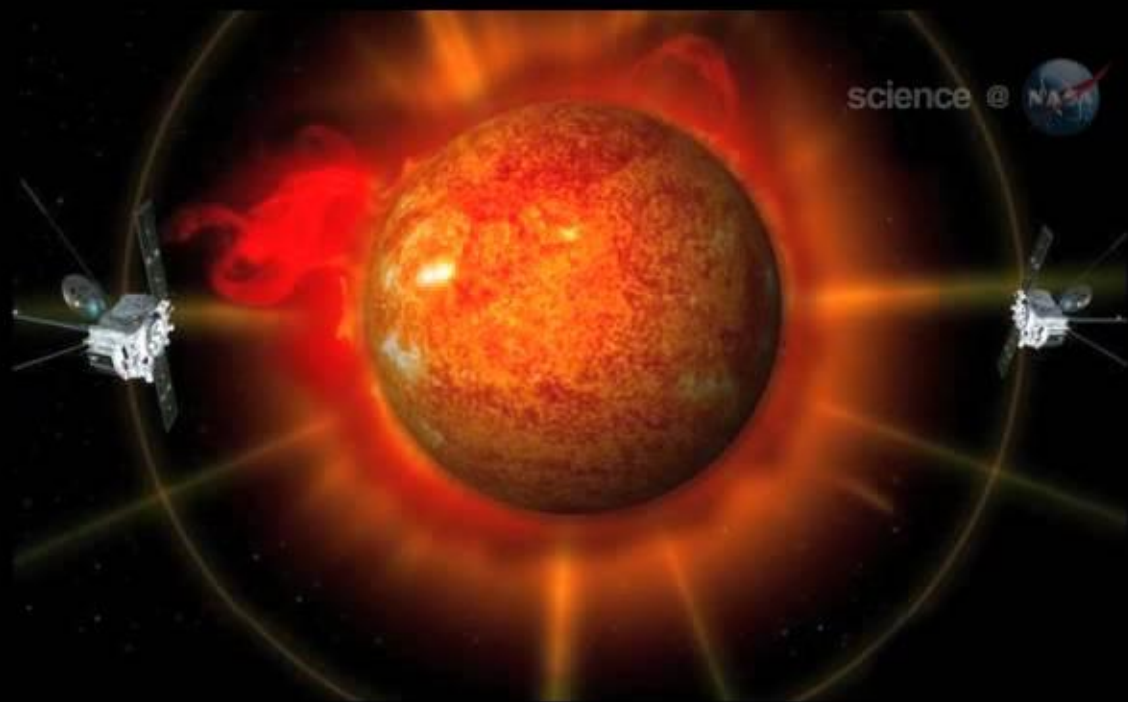


science @ 



1
00:00:10,870 --> 00:00:07,749
sun grazing comet amazes astronomers

2
00:00:14,470 --> 00:00:10,880
presented by science at nasa

3
00:00:17,189 --> 00:00:14,480
note to comets stay away from the sun

4
00:00:19,189 --> 00:00:17,199
on july 5th a fleet of nasa and european

5
00:00:22,150 --> 00:00:19,199
spacecraft watched what happened when an

6
00:00:24,390 --> 00:00:22,160
icy comet got a little too close

7
00:00:26,150 --> 00:00:24,400
a sun grazing comet swooped closer to

8
00:00:28,550 --> 00:00:26,160
the surface of the sun than we've ever

9
00:00:30,230 --> 00:00:28,560
seen before says solar physicist dean

10
00:00:31,349 --> 00:00:30,240
pesnell of the goddard space flight

11
00:00:33,750 --> 00:00:31,359
center

12
00:00:35,270 --> 00:00:33,760
and now the solar system has one less

13
00:00:37,430 --> 00:00:35,280

dirty snowball

14

00:00:38,709 --> 00:00:37,440

the solar and heliospheric observatory

15

00:00:40,869 --> 00:00:38,719

saw it first

16

00:00:42,069 --> 00:00:40,879

using an opaque disc to block the sun's

17

00:00:43,990 --> 00:00:42,079

glare

18

00:00:46,389 --> 00:00:44,000

soho recorded the early stages of the

19

00:00:48,709 --> 00:00:46,399

comet's death the comet grew a long

20

00:00:51,189 --> 00:00:48,719

bright tail as icy material in its

21

00:00:53,189 --> 00:00:51,199

nucleus furiously vaporized in the face

22

00:00:54,630 --> 00:00:53,199

of intense solar heating

23

00:00:56,950 --> 00:00:54,640

by the time it happened behind the

24

00:00:59,910 --> 00:00:56,960

sunblocking disk the comet had become

25

00:01:02,470 --> 00:00:59,920

one of the brightest of the soho era

26

00:01:04,710 --> 00:01:02,480

since soho was launched in 1996 the

27

00:01:06,950 --> 00:01:04,720

observatory has recorded more than 2 000

28

00:01:09,590 --> 00:01:06,960

comets says carl battams of the naval

29

00:01:11,510 --> 00:01:09,600

research lab in washington dc

30

00:01:12,789 --> 00:01:11,520

i'd put this one in the top 10 of all

31

00:01:15,270 --> 00:01:12,799

time

32

00:01:17,030 --> 00:01:15,280

nasa's twin stereo probes also monitored

33

00:01:18,789 --> 00:01:17,040

the comet's approach

34

00:01:22,230 --> 00:01:18,799

with three points of view

35

00:01:24,070 --> 00:01:22,240

soho plus stereo a and stereo b

36

00:01:27,270 --> 00:01:24,080

researchers could get a good fix of the

37

00:01:29,510 --> 00:01:27,280

comet's orbit it was definitely a croix

38

00:01:31,830 --> 00:01:29,520

sungrazer says badams

39

00:01:34,069 --> 00:01:31,840

kreutz sungrazers are fragments from the

40

00:01:35,429 --> 00:01:34,079

breakup of a single giant comet many

41

00:01:37,429 --> 00:01:35,439

centuries ago

42

00:01:39,670 --> 00:01:37,439

they get their name from 19th century

43

00:01:41,510 --> 00:01:39,680

german astronomer henrik kreutz who

44

00:01:43,670 --> 00:01:41,520

studied them in detail

45

00:01:45,910 --> 00:01:43,680

several kreutz fragments pass by the sun

46

00:01:47,830 --> 00:01:45,920

and disintegrate every day

47

00:01:50,389 --> 00:01:47,840

most measuring less than a few meters

48

00:01:52,389 --> 00:01:50,399

across are too small to see

49

00:01:54,789 --> 00:01:52,399

but occasionally a big fragment like

50

00:01:56,630 --> 00:01:54,799

this one attracts attention

51
00:01:59,270 --> 00:01:56,640
the best view of all came from nasa's

52
00:02:00,389 --> 00:01:59,280
solar dynamics observatory or sdo for

53
00:02:02,230 --> 00:02:00,399
short

54
00:02:04,389 --> 00:02:02,240
the kreutz debris stream happened to be

55
00:02:06,870 --> 00:02:04,399
passing right across the solar disk as

56
00:02:09,430 --> 00:02:06,880
seen from sdo notes battams

57
00:02:11,830 --> 00:02:09,440
that was fortuitous for sure

58
00:02:13,510 --> 00:02:11,840
sdo's high resolution cameras recorded

59
00:02:15,830 --> 00:02:13,520
the comet's passage through the sun's

60
00:02:17,270 --> 00:02:15,840
atmosphere says pesnell the sdo project

61
00:02:19,190 --> 00:02:17,280
scientist

62
00:02:21,589 --> 00:02:19,200
we were able to see the comet vaporized

63
00:02:24,229 --> 00:02:21,599

before our very eyes the first time we

64

00:02:25,910 --> 00:02:24,239

have ever seen such a thing

65

00:02:27,830 --> 00:02:25,920

researchers are studying the video in

66

00:02:30,710 --> 00:02:27,840

detail to learn more about the doomed

67

00:02:32,630 --> 00:02:30,720

comet how massive was it what caused the

68

00:02:34,550 --> 00:02:32,640

comet to glow so brightly

69

00:02:36,390 --> 00:02:34,560

in some parts of the movie it appeared

70

00:02:37,589 --> 00:02:36,400

to be even brighter than the fiery sun

71

00:02:39,670 --> 00:02:37,599

behind it

72

00:02:40,949 --> 00:02:39,680

and was the comet's tail actually

73

00:02:42,949 --> 00:02:40,959

wagging

74

00:02:45,030 --> 00:02:42,959

stay tuned for answers to these and

75

00:02:46,309 --> 00:02:45,040

other comet questions as the analysis

