



1
00:00:05,670 --> 00:00:02,869
in less than 30 minutes this spacex

2
00:00:08,790 --> 00:00:05,680
falcon 9 rocket will launch xp giving us

3
00:00:10,870 --> 00:00:08,800
a new set of eyes to explore outer space

4
00:00:13,669 --> 00:00:10,880
over a two-year mission it will use its

5
00:00:16,550 --> 00:00:13,679
unique x-ray vision to study some of the

6
00:00:17,910 --> 00:00:16,560
most mysterious and powerful objects in

7
00:00:19,349 --> 00:00:17,920
our universe

8
00:00:20,950 --> 00:00:19,359
thank you for joining us this morning

9
00:00:23,189 --> 00:00:20,960
live from kennedy space center in

10
00:00:26,310 --> 00:00:23,199
florida i'm megan cruz and i'm marie

11
00:00:28,790 --> 00:00:26,320
lewis liftoff is set for one o'clock am

12
00:00:32,389 --> 00:00:28,800
sharp eastern time from just behind us

13
00:00:35,190 --> 00:00:32,399

at historic launch complex 39a ixp is

14

00:00:37,670 --> 00:00:35,200

nasa's first mission to study polarized

15

00:00:40,150 --> 00:00:37,680

x-rays simply put it will help us

16

00:00:42,630 --> 00:00:40,160

understand how the universe works the

17

00:00:45,750 --> 00:00:42,640

mission will focus on objects like black

18

00:00:48,790 --> 00:00:45,760

holes and exploded stars honing in on

19

00:00:50,549 --> 00:00:48,800

their cosmic x-rays these rays originate

20

00:00:53,510 --> 00:00:50,559

from places where matter is under

21

00:00:56,389 --> 00:00:53,520

extreme conditions violent collisions

22

00:00:59,430 --> 00:00:56,399

enormous explosions 10 million degree

23

00:01:01,830 --> 00:00:59,440

temperatures and fast rotations and xv

24

00:01:03,349 --> 00:01:01,840

is unique because it will pinpoint x-ray

25

00:01:05,590 --> 00:01:03,359

polarization

26

00:01:07,510 --> 00:01:05,600

soon after launching xp will deploy its

27

00:01:10,870 --> 00:01:07,520

solar arrays which will power the

28

00:01:13,830 --> 00:01:10,880

spacecraft after about a week in space

29

00:01:15,910 --> 00:01:13,840

xp will extend its boom

30

00:01:18,469 --> 00:01:15,920

lengthening the spacecraft to about the

31

00:01:20,870 --> 00:01:18,479

size of a minivan there that boom goes

32

00:01:22,870 --> 00:01:20,880

about a month after launch xp will begin

33

00:01:25,030 --> 00:01:22,880

its two-year mission using three

34

00:01:27,590 --> 00:01:25,040

identical telescopes each with a set of

35

00:01:29,670 --> 00:01:27,600

mirrors those mirrors have corresponding

36

00:01:32,310 --> 00:01:29,680

detectors on the opposite end of the

37

00:01:34,710 --> 00:01:32,320

boom the mirrors collect x-rays from the

38

00:01:36,789 --> 00:01:34,720

celestial objects and focus them on the

39

00:01:39,109 --> 00:01:36,799

detectors which make an image of those

40

00:01:41,749 --> 00:01:39,119

x-rays and measure polarization

41

00:01:44,469 --> 00:01:41,759

polarization is a property of light like

42

00:01:46,950 --> 00:01:44,479

brightness and color x-rays are a form

43

00:01:49,749 --> 00:01:46,960

of high-energy light that's invisible to

44

00:01:52,069 --> 00:01:49,759

the human eye by studying the polarized

45

00:01:54,149 --> 00:01:52,079

x-rays of these powerful objects we can

46

00:01:55,590 --> 00:01:54,159

learn more about what they're made of

47

00:01:57,749 --> 00:01:55,600

and how they work

48

00:02:00,149 --> 00:01:57,759

today's launch is managed by nasa's

49

00:02:01,990 --> 00:02:00,159

launch services program in cooperation

50

00:02:04,709 --> 00:02:02,000

with the agency's marshall space flight

51
00:02:06,389 --> 00:02:04,719
center the italian space agency and ball

52
00:02:08,469 --> 00:02:06,399
aerospace and here are some other

53
00:02:10,630 --> 00:02:08,479
interesting facts about xp by the

54
00:02:13,350 --> 00:02:10,640
numbers the bottom of the observatory

55
00:02:16,229 --> 00:02:13,360
called the spacecraft bus is nearly four

56
00:02:18,869 --> 00:02:16,239
feet in diameter up top is the mirror

57
00:02:21,670 --> 00:02:18,879
module support structure deck that's

58
00:02:23,910 --> 00:02:21,680
almost five feet in diameter the boom is

59
00:02:27,270 --> 00:02:23,920
12 feet long bringing the fully extended

60
00:02:30,790 --> 00:02:27,280
observatory height to 17 feet

61
00:02:34,630 --> 00:02:30,800
xp's solar array wingspan is 8 feet put

62
00:02:37,270 --> 00:02:34,640
it all together and xp weighs 727 pounds

63
00:02:39,750 --> 00:02:37,280

roughly the same as a polar bear it will

64

00:02:41,910 --> 00:02:39,760

study about 40 celestial objects during

65

00:02:44,150 --> 00:02:41,920

its first year in space with more

66

00:02:45,509 --> 00:02:44,160

detailed follow-up observations in its

67

00:02:47,190 --> 00:02:45,519

second year

68

00:02:49,430 --> 00:02:47,200

and dixby arrived at cape canaveral

69

00:02:52,229 --> 00:02:49,440

space force station on november 5th for

70

00:02:54,630 --> 00:02:52,239

final pre-launch testing teams attached

71

00:02:56,949 --> 00:02:54,640

it to the falcon 9 rocket last week and

72

00:02:59,589 --> 00:02:56,959

now here we are stacked and vertical on