
TOGETHER, THE INSTRUMENTS WILL
PROVIDE AN UNPRECEDENTED LOOK

1
00:00:20,950 --> 00:00:18,790
gamma rays the highest energy form of

2
00:00:22,790 --> 00:00:20,960
light are produced by the hottest

3
00:00:26,630 --> 00:00:22,800
regions of the universe

4
00:00:29,189 --> 00:00:26,640
supernova explosions black holes neutron

5
00:00:32,150 --> 00:00:29,199
stars and pulsars

6
00:00:34,870 --> 00:00:32,160
liftoff of the delta rocket carrying

7
00:00:37,350 --> 00:00:34,880
glass a gamma-ray telescope searching

8
00:00:38,549 --> 00:00:37,360
for unseen physics in the stars of the

9
00:00:42,389 --> 00:00:38,559
galaxies

10
00:00:45,029 --> 00:00:42,399
on june 11 2008 the gamma-ray large area

11
00:00:46,150 --> 00:00:45,039
space telescope glast was sent into

12
00:00:48,709 --> 00:00:46,160
space

13
00:00:51,270 --> 00:00:48,719

since renamed fermi for high energy

14
00:00:53,910 --> 00:00:51,280
physics pioneer enrico fermi the

15
00:00:56,869 --> 00:00:53,920
spacecraft orbits about 300 miles above

16
00:00:59,670 --> 00:00:56,879
earth scanning and imaging the universe

17
00:01:02,150 --> 00:00:59,680
for gamma rays that unlike optical light

18
00:01:05,030 --> 00:01:02,160
and x-rays cannot be captured and

19
00:01:07,670 --> 00:01:05,040
reflected in mirrors light can be much

20
00:01:09,510 --> 00:01:07,680
more energetic than just visible

21
00:01:11,590 --> 00:01:09,520
and when it's a little bit more

22
00:01:12,469 --> 00:01:11,600
energetic we call this ultraviolet and

23
00:01:16,469 --> 00:01:12,479
you know

24
00:01:18,710 --> 00:01:16,479
bad for your skin

25
00:01:21,910 --> 00:01:18,720
and then you are more energetic you are

26
00:01:23,830 --> 00:01:21,920
in x-rays and now if you are even more

27
00:01:27,350 --> 00:01:23,840
energetic than x-rays you are in gamma

28
00:01:30,310 --> 00:01:27,360
rays and gamma rays is the domain that

29
00:01:32,950 --> 00:01:30,320
fermi is studying fermi carries two

30
00:01:37,350 --> 00:01:32,960
instruments the large area telescope or

31
00:01:39,830 --> 00:01:37,360
lats and the glass burst monitor or gbm

32
00:01:41,830 --> 00:01:39,840
lat has already unveiled an all-sky

33
00:01:45,190 --> 00:01:41,840
image of the glowing gas of the milky

34
00:01:48,230 --> 00:01:45,200
way blinking pulsars and a flaring

35
00:01:51,910 --> 00:01:48,240
galaxy billions of light years away

36
00:01:54,870 --> 00:01:51,920
fermi's gbm spotted 31 gamma-ray bursts

37
00:01:57,190 --> 00:01:54,880
in its first month of operation alone

38
00:01:59,270 --> 00:01:57,200

together the instruments will provide an

39
00:02:00,870 --> 00:01:59,280
unprecedented look across a broad

40
00:02:02,870 --> 00:02:00,880
gamma-ray spectrum

41
00:02:05,190 --> 00:02:02,880
enabling scientists to witness the

42
00:02:07,749 --> 00:02:05,200
processes powering these high-energy

43
00:02:11,110 --> 00:02:07,759
events they've already discovered a

44
00:02:13,110 --> 00:02:11,120
pulsar that is totally invisible for

45
00:02:16,949 --> 00:02:13,120
everybody except if you're looking in

46
00:02:20,869 --> 00:02:16,959
gamma rays that pulsar was is an is in

47
00:02:23,910 --> 00:02:20,879
the center of a of a supernova remnant

48
00:02:25,750 --> 00:02:23,920
so people thought oh there should be a

49
00:02:27,750 --> 00:02:25,760
pulse out there they looked they looked

50
00:02:29,670 --> 00:02:27,760
but they couldn't find anything because

51
00:02:31,750 --> 00:02:29,680
unless you look

52
00:02:33,990 --> 00:02:31,760
in gamma rays you're not going to find

53
00:02:37,350 --> 00:02:34,000
it it's a pulsar that pulses only in

54
00:02:39,750 --> 00:02:37,360
gamma rays so in a very short time

55
00:02:41,270 --> 00:02:39,760
they've already changed the way we look

56
00:02:43,990 --> 00:02:41,280
at pulsars

57
00:02:46,150 --> 00:02:44,000
and that's just a very small category of

58
00:02:48,550 --> 00:02:46,160
all the subjects that fermi can cover

59
00:02:50,309 --> 00:02:48,560
scientists predict fermi will also

60
00:02:52,949 --> 00:02:50,319
answer persistent questions about

61
00:02:56,309 --> 00:02:52,959
supermassive black holes the origin of

62
00:02:59,509 --> 00:02:56,319
cosmic rays and aid in searches for new

63
00:03:03,190 --> 00:02:59,519

physics all to better understand how our

64
00:03:04,869 --> 00:03:03,200
universe works it just started to give

65
00:03:06,869 --> 00:03:04,879
a fabulous

66
00:03:09,589 --> 00:03:06,879
discovery and provide scientists with

67
00:03:12,149 --> 00:03:09,599
fabulous data so if you hear the word

68
00:03:14,070 --> 00:03:12,159
fermi the mission for me you know this

69
00:03:15,270 --> 00:03:14,080
is the mission that study the sky in

70
00:03:19,110 --> 00:03:15,280
gamma rays

71
00:03:21,830 --> 00:03:19,120
and just stay tuned for a humongous

72
00:03:23,110 --> 00:03:21,840
large number of discovery that they will

73
00:03:24,869 --> 00:03:23,120
come

74
00:03:27,190 --> 00:03:24,879
and you will be surprised

75
00:03:31,430 --> 00:03:27,200
for more on fermi and other nasa