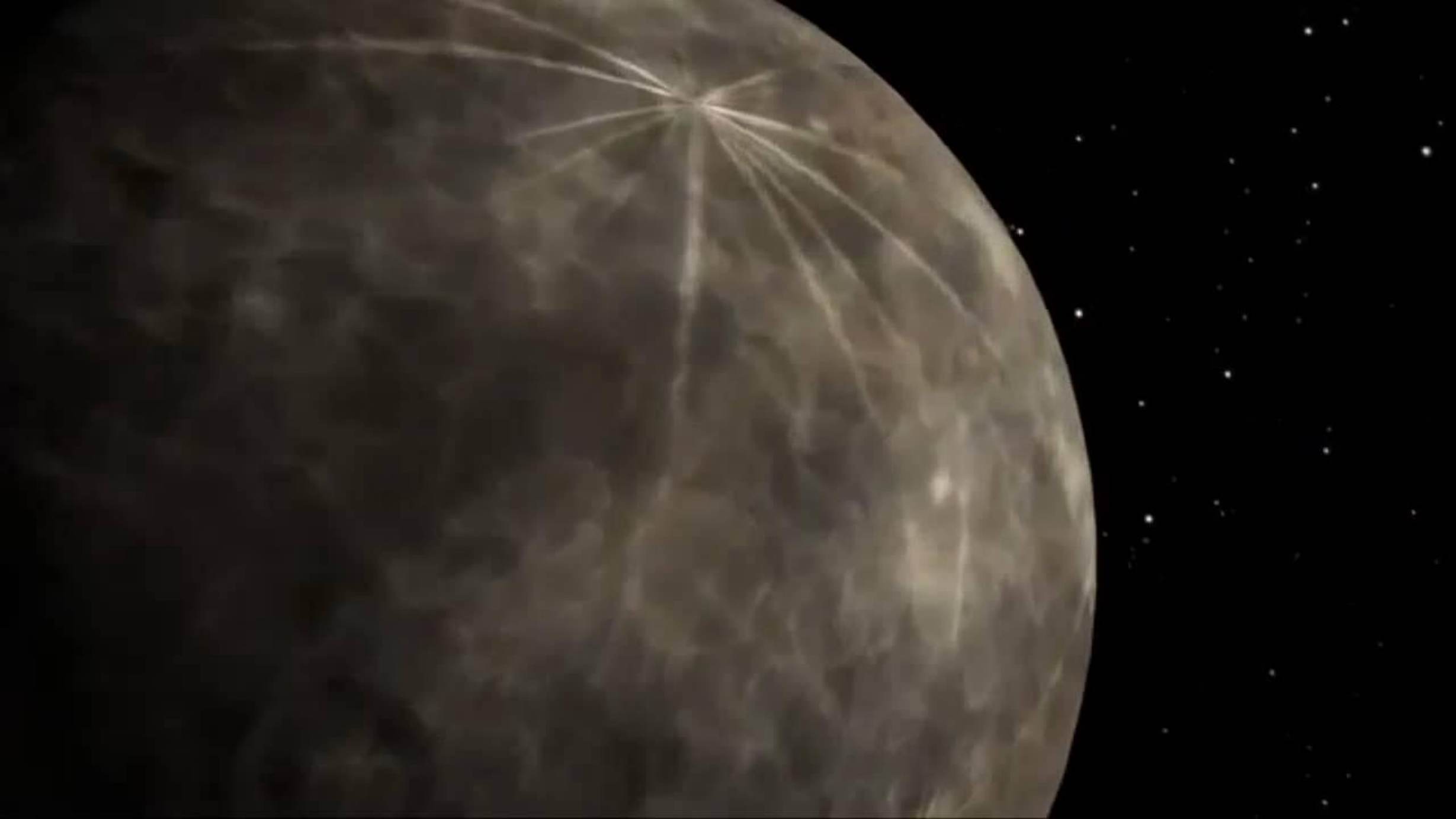

1
00:00:06,630 --> 00:00:04,309
what's up for march bright saturn and a

2
00:00:08,870 --> 00:00:06,640
faint asteroid named lutesha

3
00:00:10,790 --> 00:00:08,880
hello and welcome i'm jane houston jones

4
00:00:12,789 --> 00:00:10,800
at nasa's jet propulsion laboratory in

5
00:00:15,270 --> 00:00:12,799
pasadena california

6
00:00:17,029 --> 00:00:15,280
this month saturn is at opposition which

7
00:00:18,870 --> 00:00:17,039
is when the sun is on one side of the

8
00:00:21,029 --> 00:00:18,880
earth and saturn is directly on the

9
00:00:23,109 --> 00:00:21,039
opposite side

10
00:00:25,109 --> 00:00:23,119
saturn is brightest at opposition and

11
00:00:27,509 --> 00:00:25,119
it's also as close to earth as it ever

12
00:00:29,990 --> 00:00:27,519
gets in its orbit you can view saturn

13
00:00:33,590 --> 00:00:30,000

all night long now it rises in the east

14
00:00:35,510 --> 00:00:33,600
at sunset and sets in the west at dawn

15
00:00:37,830 --> 00:00:35,520
if you face east in the late evening you

16
00:00:40,069 --> 00:00:37,840
can see two planets near the distinctive

17
00:00:42,389 --> 00:00:40,079
constellation leo

18
00:00:45,029 --> 00:00:42,399
first look nearly overhead that reddish

19
00:00:46,950 --> 00:00:45,039
object you see up there is mars

20
00:00:49,590 --> 00:00:46,960
closer to the horizon the bright golden

21
00:00:51,590 --> 00:00:49,600
hued object is saturn

22
00:00:53,270 --> 00:00:51,600
saturn is well placed for viewing from

23
00:00:55,110 --> 00:00:53,280
now through july

24
00:00:57,670 --> 00:00:55,120
this year saturn's rings are slightly

25
00:01:00,709 --> 00:00:57,680
inclined they were tilted four degrees

26
00:01:03,430 --> 00:01:00,719
in january they'll dip to nearly edge on

27
00:01:06,230 --> 00:01:03,440
in june and then tip up to 10 degrees by

28
00:01:10,950 --> 00:01:08,469
the solar system was a violent place to

29
00:01:13,429 --> 00:01:10,960
start with there were many crashes in

30
00:01:16,469 --> 00:01:13,439
which small bodies broke into pieces and

31
00:01:18,390 --> 00:01:16,479
reformed the study of asteroids helps us

32
00:01:21,109 --> 00:01:18,400
understand a lot more about the early

33
00:01:22,710 --> 00:01:21,119
solar system history

34
00:01:24,550 --> 00:01:22,720
of the millions of asteroids in our

35
00:01:27,510 --> 00:01:24,560
solar system only a few have been

36
00:01:30,069 --> 00:01:27,520
observed up close

37
00:01:33,510 --> 00:01:30,079
near the middle of the constellation leo

38
00:01:36,630 --> 00:01:33,520

is the challenging to see and faint main

39
00:01:38,390 --> 00:01:36,640
belt asteroid 21 lutetia

40
00:01:41,030 --> 00:01:38,400
you'll need a good star chart and a

41
00:01:43,109 --> 00:01:41,040
medium to large telescope plus dark

42
00:01:45,990 --> 00:01:43,119
skies to glimpse this small 12th

43
00:01:47,830 --> 00:01:46,000
magnitude asteroid

44
00:01:49,830 --> 00:01:47,840
if you don't see lutetia that's okay

45
00:01:52,069 --> 00:01:49,840
because the european space agency's

46
00:01:54,630 --> 00:01:52,079
rosetta spacecraft will pay its second

47
00:01:56,709 --> 00:01:54,640
visit to this interesting object in july

48
00:01:58,870 --> 00:01:56,719
passing within three thousand kilometers

49
00:02:01,510 --> 00:01:58,880
of the asteroid

50
00:02:04,789 --> 00:02:01,520
rosetta had its first look at lutetia in

51
00:02:06,709 --> 00:02:04,799
january of 2007. the osiris camera

52
00:02:08,630 --> 00:02:06,719
imaged the asteroid passing through its

53
00:02:12,150 --> 00:02:08,640
field of view during the spacecraft's

54
00:02:13,750 --> 00:02:12,160
approach to mars for a gravity assist

55
00:02:16,070 --> 00:02:13,760
rosetta's instruments will collect

56
00:02:18,070 --> 00:02:16,080
enough information to create a resume of

57
00:02:20,390 --> 00:02:18,080
the asteroids past

58
00:02:22,710 --> 00:02:20,400
where it was born how it got started on

59
00:02:25,750 --> 00:02:22,720
its asteroid career and if there were

60
00:02:27,990 --> 00:02:25,760
any mid-course corrections

61
00:02:30,630 --> 00:02:28,000
the cassini spacecraft has been studying

62
00:02:32,949 --> 00:02:30,640
saturn its rings and moons since

63
00:02:35,110 --> 00:02:32,959

arriving in 2004

64
00:02:38,869 --> 00:02:35,120
cassini's seven-year solstice mission

65
00:02:40,710 --> 00:02:38,879
extension to the year 2017 presents an

66
00:02:42,949 --> 00:02:40,720
opportunity to follow the seasonal

67
00:02:46,150 --> 00:02:42,959
changes of an outer planet all the way

68
00:02:51,910 --> 00:02:48,550
to its summer

69
00:02:54,949 --> 00:02:51,920
during its 155 orbits around saturn

70
00:02:57,030 --> 00:02:54,959
including 55 flybys of the moon titan

71
00:03:00,390 --> 00:02:57,040
cassini will fly by the icy moon

72
00:03:02,149 --> 00:03:00,400
enceladus 11 more times

73
00:03:06,470 --> 00:03:02,159
you can learn more about cassini and

74
00:03:10,229 --> 00:03:08,790
the nasa contribution to esa's rosetta

75
00:03:14,630 --> 00:03:10,239
mission can be found at