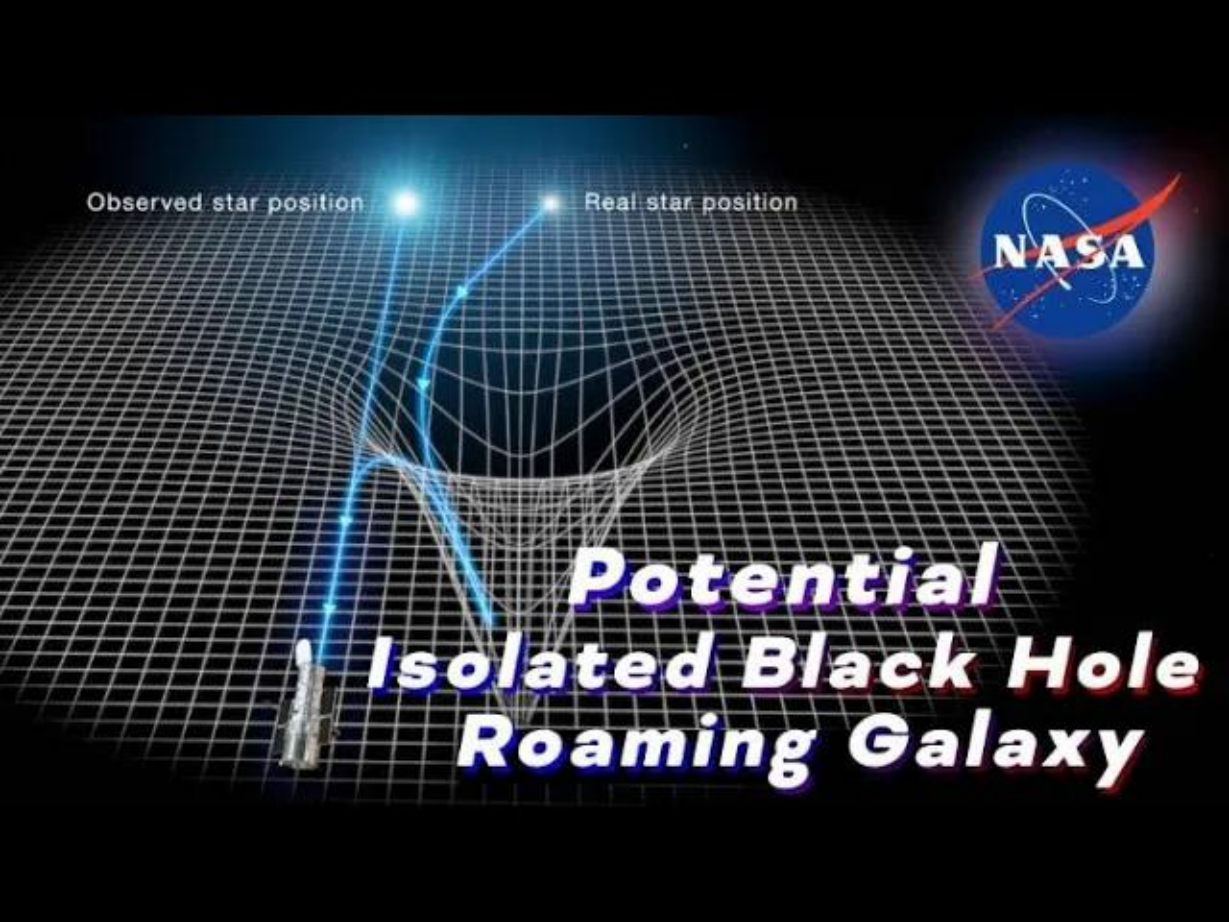
Observed star position
Real star position
NASA
Potential
Isolated Black Hole
Roaming Galaxy

1
00:00:05,630 --> 00:00:02,570
though an estimated 100 million black

2
00:00:07,610 --> 00:00:05,640
holes Rome or Milky Way galaxy these

3
00:00:09,370 --> 00:00:07,620
objects are invisible and so very

4
00:00:11,690 --> 00:00:09,380
difficult to detect

5
00:00:13,610 --> 00:00:11,700
astronomers now believe they may have

6
00:00:16,550 --> 00:00:13,620
precisely measured the mass of an

7
00:00:19,730 --> 00:00:16,560
isolated black hole for the first time

8
00:00:21,769 --> 00:00:19,740
after six years of observations NASA's

9
00:00:24,710 --> 00:00:21,779
Hubble Space Telescope found evidence

10
00:00:26,450 --> 00:00:24,720
for a lone black hole about 5 000 light

11
00:00:28,670 --> 00:00:26,460
years away wandering through

12
00:00:31,669 --> 00:00:28,680
Interstellar space

13
00:00:34,670 --> 00:00:31,679

black holes roaming our galaxy are born

14
00:00:36,410 --> 00:00:34,680
from rare monstrous Stars less than one

15
00:00:38,569 --> 00:00:36,420
thousandth of the Galaxy's Stellar

16
00:00:41,930 --> 00:00:38,579
population that are many times more

17
00:00:44,569 --> 00:00:41,940
massive than our sun these Stars die in

18
00:00:47,029 --> 00:00:44,579
Supernova explosions their core is

19
00:00:49,490 --> 00:00:47,039
crushed by the star's own gravity into a

20
00:00:51,950 --> 00:00:49,500
black hole because the detonation is

21
00:00:54,229 --> 00:00:51,960
asymmetrical the black hole may get a

22
00:00:55,970 --> 00:00:54,239
kick sending it careening through our

23
00:00:58,490 --> 00:00:55,980
galaxy

24
00:01:00,709 --> 00:00:58,500
Hubble detected the magnified and

25
00:01:03,170 --> 00:01:00,719
deflected light from a star lined up

26
00:01:05,750 --> 00:01:03,180
exactly behind the potential black hole

27
00:01:07,310 --> 00:01:05,760
as its intense gravity warps space

28
00:01:09,770 --> 00:01:07,320
itself

29
00:01:12,109 --> 00:01:09,780
the measurements indicate the black hole

30
00:01:14,090 --> 00:01:12,119
weighs seven solar masses and is

31
00:01:16,310 --> 00:01:14,100
traveling through space at a hundred

32
00:01:18,770 --> 00:01:16,320
thousand miles per hour

33
00:01:21,050 --> 00:01:18,780
but don't worry there's a lot of space