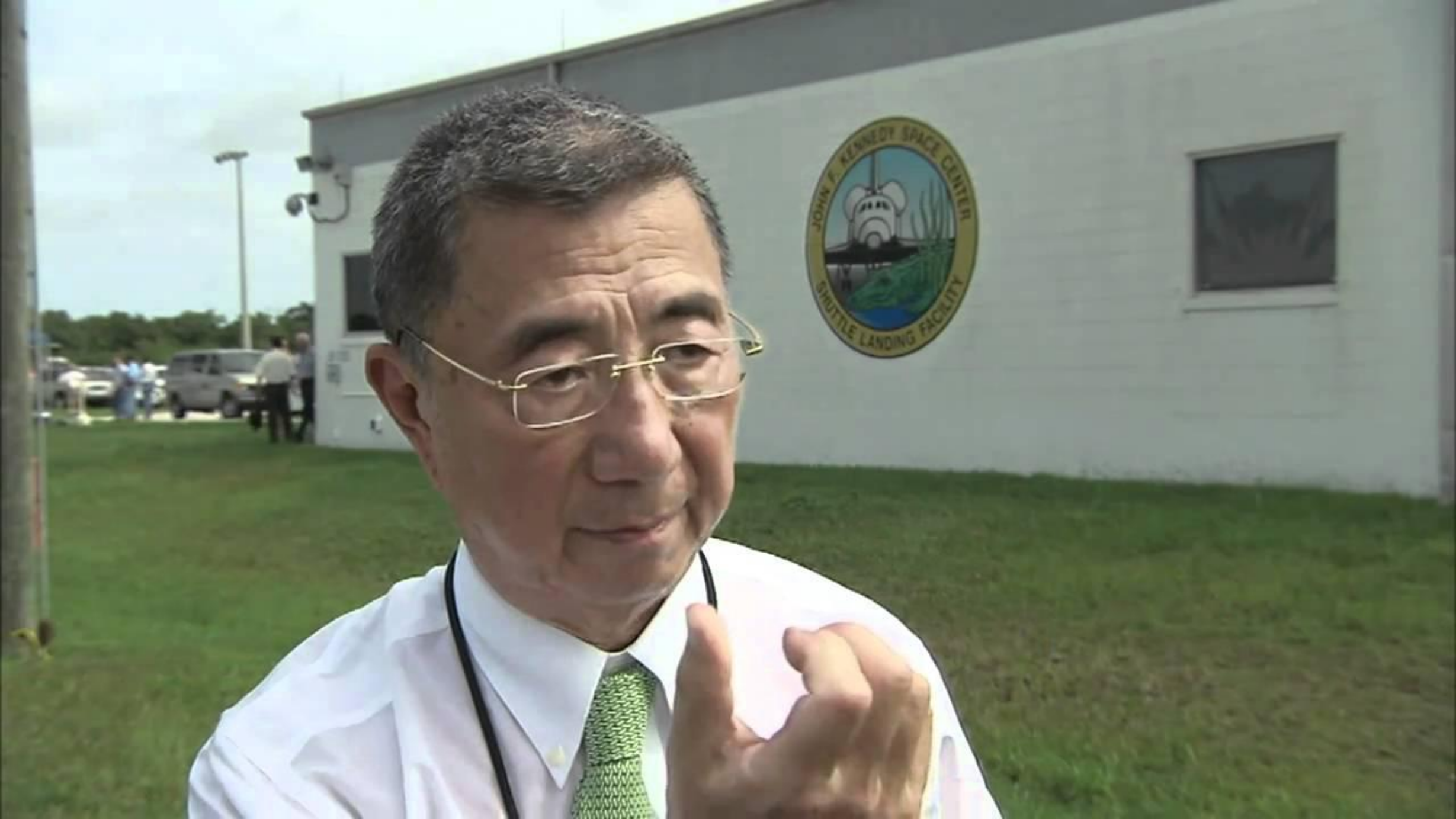
JOHN F. KENNEDY SPACE CENTER
SHUTTLE LANDING FACILITY

1
00:00:00,410 --> 00:00:01,410
Music

2
00:00:06,510 --> 00:00:06,540
An advanced scientific payload set to fly aboard space shuttle Endeavour in 2011 is beginning final

3
00:00:13,080 --> 00:00:17,880
preparations for its upcoming flight to the International Space Station.

4
00:00:17,980 --> 00:00:18,570
The pioneering Alpha Magnetic Spectrometer-2 experiment arrived at NASA's Kennedy Space Center on Aug.

5
00:00:24,190 --> 00:00:27,323
26 aboard a U.S. Air Force C-5M cargo aircraft.

6
00:00:29,280 --> 00:00:35,880
Known as AMS, the high-tech device could lead to new discoveries about the universe and its origin.

7
00:00:36,710 --> 00:00:36,916
AMS will use a powerful magnet and cutting-edge particle physics detector to measure the

8
00:00:42,370 --> 00:00:44,836
charged particles within cosmic rays.

9
00:00:45,700 --> 00:00:46,760
The project is a longtime dream of the experiment's principal investigator,

10
00:00:49,640 --> 00:00:54,706
Nobel Prize-winner Samuel Ting of the Massachusetts Institute of Technology.

11
00:00:55,080 --> 00:00:55,916
He and other scientists are excited about the possibility of finding signatures

12
00:00:59,510 --> 00:00:59,606
of dark matter and antimatter among those particles.

13
00:01:02,880 --> 00:01:08,146

These particles carry charge. Because it carries a charge, it must have a mass.

14
00:01:08,300 --> 00:01:14,500
Because it has a mass, it's absorbing Earth's atmosphere. Therefore, you have to go to space.

15
00:01:15,010 --> 00:01:16,103
Scientists and engineers from 16 countries contributed to AMS, making it a perfect addition to the

16
00:01:20,450 --> 00:01:22,316
International Space Station.

17
00:01:23,200 --> 00:01:28,133
Led by Commander Mark Kelly, all six STS-134 astronauts were at Kennedy to

18
00:01:29,150 --> 00:01:31,216
watch as their payload arrived.

19
00:01:32,180 --> 00:01:32,960
The nearly 15,000-pound experiment will be robotically installed on the station's main truss during

20
00:01:38,000 --> 00:01:40,933
shuttle Endeavour's final scheduled mission.

21
00:01:41,310 --> 00:01:42,663
We're going to pick it up with the Canadian robotic arm that's inside the space shuttle, just pick it

22
00:01:46,690 --> 00:01:47,036
right up, stretch out the arm. And then the space station robotic arm, also made by Canada,

23
00:01:52,410 --> 00:01:58,143
Canadarm 2, is going to take the AMS and it's called a handoff, just like in football,

24
00:01:58,220 --> 00:01:59,026
grab it and we're going to put it right on the space station.

25
00:02:01,480 --> 00:02:02,243
AMS will go through a few months of final testing in Kennedy's

26
00:02:04,850 --> 00:02:05,253
Space Station Processing Facility before it is loaded into Endeavour's payload bay.

27
00:02:09,980 --> 00:02:10,343
Once it reaches its final destination in orbit, the experiment is expected to operate for