



Helium Hydride

1
00:00:00,000 --> 00:00:02,950
The Universe today is filled with planets,

2
00:00:02,950 --> 00:00:04,980
stars, galaxies...

3
00:00:04,980 --> 00:00:06,510
But what came before?

4
00:00:06,510 --> 00:00:09,820
(Dramatic music. Sound of explosion)

5
00:00:09,820 --> 00:00:12,720
After the Big Bang, the early universe only had

6
00:00:12,720 --> 00:00:17,350
a few types of atoms - mostly helium and hydrogen.

7
00:00:17,350 --> 00:00:20,190
Scientists believe that helium and hydrogen began

8
00:00:20,190 --> 00:00:23,830
to combine to form the universe's first molecule,

9
00:00:23,830 --> 00:00:26,000
called helium hydride.

10
00:00:26,000 --> 00:00:28,280
These molecules led to the creation of new

11
00:00:28,280 --> 00:00:32,090
molecules that helped cool the early universe.

12
00:00:36,120 --> 00:00:39,330
Over billions of years the universe transformed,

13
00:00:39,330 --> 00:00:42,440

becoming the complex place it is today.

14
00:00:42,440 --> 00:00:44,680
Scientists have never found helium hydride

15
00:00:44,680 --> 00:00:50,020
in space - until now - in a planetary nebula.

16
00:00:50,020 --> 00:00:53,120
Flying high in the Earth's atmosphere with SOFIA,

17
00:00:53,120 --> 00:00:55,600
the world's largest airborne observatory,

18
00:00:55,600 --> 00:00:58,950
scientists finally detected this elusive molecule.

19
00:00:58,950 --> 00:01:01,160
SOFIA, a partnership of NASA and

20
00:01:01,160 --> 00:01:03,050
the German Aerospace Center,

21
00:01:03,050 --> 00:01:05,320
uses cutting-edge technology.

22
00:01:05,320 --> 00:01:07,520
Its instruments are easily upgraded,

23
00:01:07,520 --> 00:01:10,390
unlike other observatories in space.

24
00:01:10,390 --> 00:01:12,690
SOFIA's detection of the first molecule