1
00:00:10,080 --> 00:00:18,950
congratulations

2
00:00:27,509 --> 00:00:22,470
i got a question from robert broder 53

3
00:00:31,589 --> 00:00:29,109
question is a good one and now that the

4
00:00:33,430 --> 00:00:31,599
iss is almost complete does it require

5
00:00:35,030 --> 00:00:33,440
more frequent frequent boosting of its

6
00:00:36,549 --> 00:00:35,040
orbit as compared to when it had only a

7
00:00:38,470 --> 00:00:36,559
few segments

8
00:00:39,910 --> 00:00:38,480
uh actually the amount of boosting that

9
00:00:43,190 --> 00:00:39,920
we need to do

10
00:00:45,350 --> 00:00:43,200
has to do with how the orbit is changing

11
00:00:47,110 --> 00:00:45,360
due to drag basically even though we're

12
00:00:48,470 --> 00:00:47,120
really high up there's still some

13
00:00:50,150 --> 00:00:48,480

particles

14
00:00:52,389 --> 00:00:50,160
some molecules up here it's not a

15
00:00:53,990 --> 00:00:52,399
complete perfect absolute vacuum

16
00:00:55,750 --> 00:00:54,000
in this altitude

17
00:00:57,189 --> 00:00:55,760
it's pretty close

18
00:00:59,830 --> 00:00:57,199
but the solar arrays on the space

19
00:01:02,470 --> 00:00:59,840
station are so big that they sweep out

20
00:01:03,830 --> 00:01:02,480
an area and constantly are actually

21
00:01:06,710 --> 00:01:03,840
dragging

22
00:01:08,710 --> 00:01:06,720
just a tiny little bit and so over time

23
00:01:10,830 --> 00:01:08,720
over a period of months we do have to

24
00:01:12,789 --> 00:01:10,840
reboost the station's altitude

25
00:01:13,510 --> 00:01:12,799
occasionally but

26
00:01:21,429 --> 00:01:13,520
the

27
00:01:22,870 --> 00:01:21,439
same

28
00:01:25,190 --> 00:01:22,880
area that it would sweep out with these

29
00:01:27,429 --> 00:01:25,200
arrays it would require less boosting

30
00:01:29,590 --> 00:01:27,439
because it would have more inertia and

31
00:01:31,590 --> 00:01:29,600
the amount that the force from the the

32
00:01:33,590 --> 00:01:31,600
atmospheric drag really on the arrays

33
00:01:35,510 --> 00:01:33,600
and could cause that deceleration that

34
00:01:37,749 --> 00:01:35,520
the cause would be less so actually

35
00:01:39,190 --> 00:01:37,759
adding more elements now

36
00:01:41,510 --> 00:01:39,200
as long as there are sort of denser

37
00:01:44,389 --> 00:01:41,520
elements toward the core rather than

38
00:01:46,550 --> 00:01:44,399

large elements like the solar rays

39
00:01:49,510 --> 00:01:46,560
would actually

40
00:01:51,190 --> 00:01:49,520
cause less less overall deceleration

41
00:01:53,590 --> 00:01:51,200
we are going to add one more big array

42
00:01:55,590 --> 00:01:53,600
though to the station so expect it to be

43
00:01:59,030 --> 00:01:55,600
have a little more um area that it'll

44
00:02:01,190 --> 00:01:59,040
sweep out and yeah that'll basically