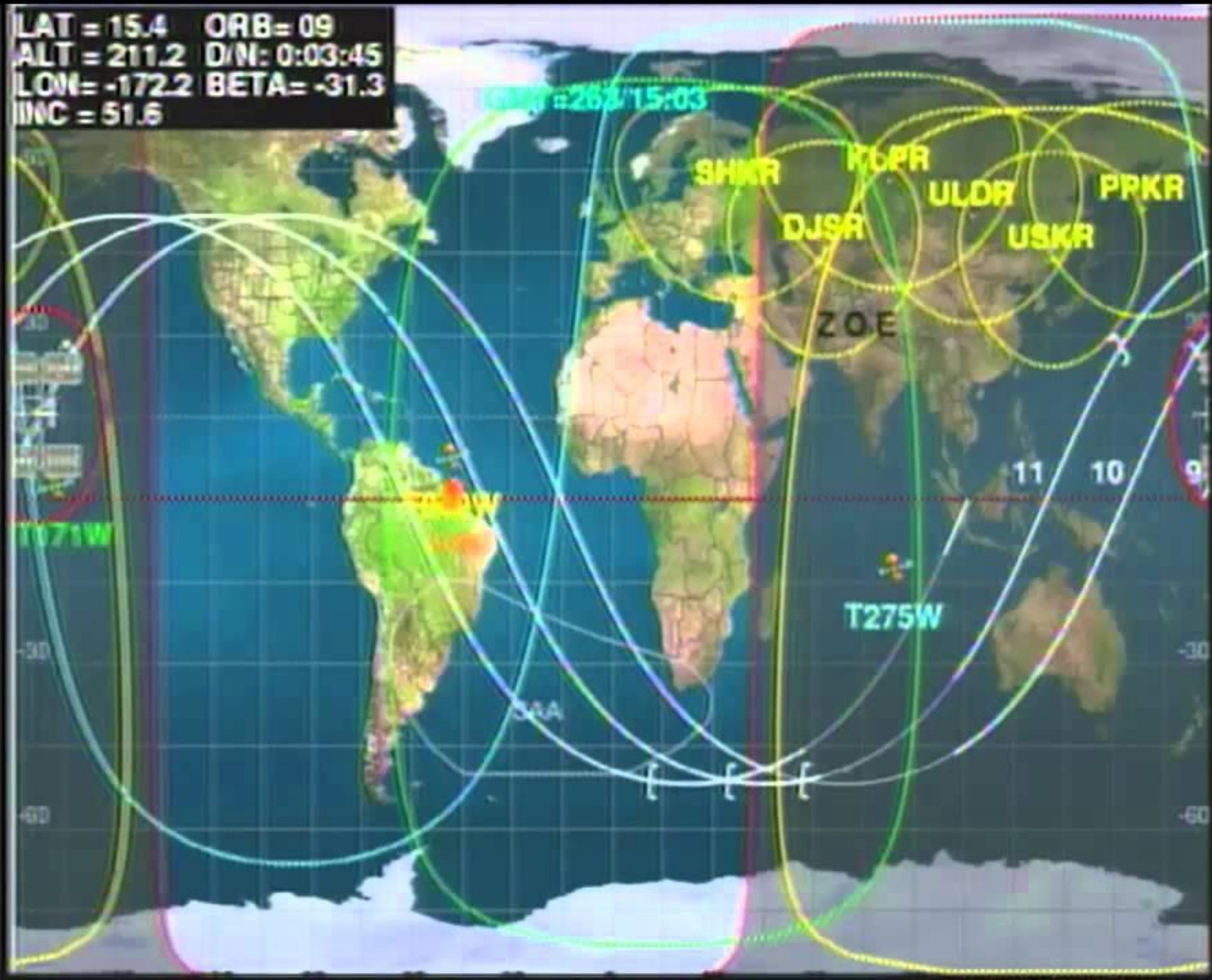


LAT = 15.4 ORB = 09  
ALT = 211.2 D/N: 0:03:45  
LON = -172.2 BETA = -31.3  
INC = 51.6

GMT = 263/15:03



1071W

T275W

11

10

9

-30

-30

-60

-60

1

00:00:02,036 --> 00:00:06,696

Good day, and welcome to Mission Control Houston where the team of flight controllers is watching

2

00:00:06,696 --> 00:00:09,166

over the systems aboard the International Space Station

3

00:00:09,246 --> 00:00:11,396

and supporting the crew on board the space station.

4

00:00:11,396 --> 00:00:15,846

This is the first full week for Expedition 29 that includes Commander Mike Fossum,

5

00:00:15,846 --> 00:00:19,906

Flight Engineer Satoshi Furukawa and Flight Engineer Sergei Volkov,

6

00:00:20,426 --> 00:00:24,956

as they continue to circle the globe at an altitude of about 230 statute miles now

7

00:00:24,956 --> 00:00:29,496

out over the Pacific Ocean on a northeasterly track that'll soon be taking them

8

00:00:29,496 --> 00:00:30,516

over North America.

9

00:00:30,836 --> 00:00:35,646

Today a very busy day on board the International Space Station for the Expedition 29 crew

10

00:00:36,006 --> 00:00:40,036

as they work through a variety of different experiment activities.

11

00:00:40,366 --> 00:00:48,626

Among the experiment activities today were some working with Binary Colloidal Alloy Testing.

12

00:00:48,626 --> 00:00:53,926

This is a look at colloids, which are things like paint and other fluids

13

00:00:53,926 --> 00:00:58,276

where there are solids suspended within them, and this is part of what's known

14

00:00:58,276 --> 00:01:01,156

as Binary Colloid[al] Alloy Test number 5.

15

00:01:01,156 --> 00:01:03,696

We have some recorded video from that here.

16

00:01:04,306 --> 00:01:08,836

In this the crew member photographs mixed samples of microscopic particles

17

00:01:08,836 --> 00:01:14,156

that are suspended in liquids, and we're looking at how microscopic fluids suspend particles

18

00:01:14,156 --> 00:01:17,996

and how they separate from each other like oil and water over time in microgravity.

19

00:01:18,356 --> 00:01:23,186

There's potential applications for this in the near term for extending product shelf life

20

00:01:23,186 --> 00:01:29,336

on Earth and in space for the long term in the development of a new generation of materials.

21

00:01:30,136 --> 00:01:34,356

Also on board today, the crew was

working with a Lego experiment.

22

00:01:34,656 --> 00:01:41,396

That is a partnership between NASA and the Lego bricks company as they have sent

23

00:01:41,396 --> 00:01:44,636

up a series of different Lego kits.

24

00:01:44,636 --> 00:01:49,086

Today the crew was scheduled to build the Hubble Space Telescope using Legos.

25

00:01:49,576 --> 00:01:52,316

There are a number of different models

26

00:01:52,316 --> 00:01:56,876

in these different kits aboard the International Space Station for educational activities,

27

00:01:57,536 --> 00:02:03,916

and so the crew got an opportunity to return to their childhood for a little bit on orbit

28

00:02:03,916 --> 00:02:10,046

as they built the Hubble Space Telescope which has sent back some of the images and data

29

00:02:10,046 --> 00:02:13,466

that have transformed our understanding of the universe.

30

00:02:15,426 --> 00:02:20,366

Also today, of course, the crew working on taking some video

31

00:02:20,366 --> 00:02:26,216

of the Japanese Experiment Module known as Kibo or "Hope" as Satoshi Furukawa,

32  
00:02:26,216 --> 00:02:30,716  
the astronaut representing the Japan  
Aerospace Exploration Agency, provided a tour.

33  
00:02:30,716 --> 00:02:33,096  
We'll have a little bit more  
of that video for you later.

34  
00:02:33,516 --> 00:02:37,246  
The crew also is going to be doing  
an educational activity on board

35  
00:02:37,816 --> 00:02:44,126  
in the near future, and then they'll complete  
their day with exercise on the various types

36  
00:02:44,126 --> 00:02:48,126  
of workout equipment that are  
in the space station's gym

37  
00:02:48,126 --> 00:02:52,396  
in the Tranquility module including  
the Advance Resistive Exercise Device,

38  
00:02:52,396 --> 00:02:55,946  
the Combined Operational Load  
Bearing Treadmill - COLBERT -

39  
00:02:56,326 --> 00:03:00,946  
and on the stationary bicycle  
in the Destiny laboratory.

40  
00:03:01,476 --> 00:03:04,756  
A variety of different exercise  
required every day by the crew members

41  
00:03:04,756 --> 00:03:08,826  
so that they can keep their bodies healthy  
for the work on orbit and also to get ready

42

00:03:08,826 --> 00:03:13,446

for the return to one gravity on Earth and  
stave off the effects of potential bone

43

00:03:13,446 --> 00:03:17,186

and muscle density loss that can  
occur in the absence of gravity

44

00:03:17,186 --> 00:03:19,466

for the six-month periods of their stay.

45

00:03:19,896 --> 00:03:23,936

Crew on board the space station, again, making  
their first full week after the departure

46

00:03:24,126 --> 00:03:30,716

of Ron Garan, Alexander Samokutyaev and Andrey  
Borisenko last week, and they're looking forward

47

00:03:30,716 --> 00:03:35,486

to the arrival of the rest of the Expedition 29  
crew a little bit later than had been planned.

48

00:03:35,936 --> 00:03:41,326

Dan Burbank, Anatoly Ivanishin and  
Anton Shkaplerov are scheduled to launch

49

00:03:41,326 --> 00:03:45,006

from the Baikonur Cosmodrome in  
Kazakhstan on November 14th and dock

50

00:03:45,006 --> 00:03:48,716

with the space station on November the 16th.

51

00:03:49,156 --> 00:03:53,986

That'll all follow the October 30th planned  
launch of the Progress 45 resupply vehicle

52

00:03:54,506 --> 00:04:00,046

which is going to test out the engine systems that were involved in a failure that led

53

00:04:00,406 --> 00:04:04,326

to the loss of the Progress 44 vehicle when it lifted off

54

00:04:04,326 --> 00:04:07,786

from the Baikonur Cosmodrome on August the 24th.

55

00:04:07,786 --> 00:04:12,506

A Russian commission determined the cause of that problem was some debris in the fluid lines

56

00:04:13,126 --> 00:04:17,016

of the engines, and they're working to use brand-new-built engines

57

00:04:17,016 --> 00:04:20,426

in the upcoming launches to avoid that problem.

58

00:04:21,836 --> 00:04:24,646

Meanwhile on board, there's one issue with the space station.

59

00:04:24,646 --> 00:04:28,916

The Urine Processing Assembly has been temporarily shut down.

60

00:04:28,916 --> 00:04:34,166

The Fluid Pump Control Assembly Module that circulates fluids through that

61

00:04:34,256 --> 00:04:39,866

which eventually leads to the urine being recycled for drinking water and other uses

62

00:04:39,866 --> 00:04:46,726

on board has failed, and the team here in Mission Control is looking at a plan to remove

63

00:04:46,726 --> 00:04:51,976

and replace that pump upcoming on Friday and get the Urine Processing Assembly back to working.

64

00:04:51,976 --> 00:04:56,396

In the meantime, the urine is being stored on board on tanks