



SPACE TO GROUND

1
00:00:00,600 --> 00:00:02,580
"HOUSTON, STATION
ON SPACE TO GROUND."

2
00:00:03,340 --> 00:00:05,520
WELCOME TO SPACE TO
GROUND, I'M ISIDRO REYNA.

3
00:00:05,940 --> 00:00:07,600
THIS WEEK ONBOARD THE STATION,

4
00:00:07,600 --> 00:00:09,996
AN EXPERIMENTAL SOLAR
ARRAY WAS JETTISONED

5
00:00:09,996 --> 00:00:11,796
AFTER A SUCCESSFUL
WEEK OF TESTING.

6
00:00:12,440 --> 00:00:15,500
THE ROLL-OUT SOLAR ARRAY
EXPERIMENT, KNOWN AS ROSA,

7
00:00:15,500 --> 00:00:18,600
TESTED A NEW TYPE OF SOLAR
PANEL THAT ROLLS OPEN IN SPACE

8
00:00:18,600 --> 00:00:21,080
AND IS MORE COMPACT THAN
CURRENT RIGID PANEL DESIGNS.

9
00:00:21,676 --> 00:00:23,376
THE INVESTIGATION
TESTED DEPLOYMENT

10
00:00:23,376 --> 00:00:24,886
AND POWER PRODUCTION
PERFORMANCE.

11

00:00:25,536 --> 00:00:28,146
SLATED FOR DISPOSAL ALREADY,
THE PAYLOAD WAS RELEASED TO BURN

12
00:00:28,146 --> 00:00:31,620
UP IN EARTH'S ATMOSPHERE AFTER
ATTEMPTS TO RETRACT AND LATCH IT

13
00:00:31,620 --> 00:00:34,500
FOR STORAGE ON SPACEX'S
DRAGON WERE UNSUCCESSFUL.

14
00:00:35,020 --> 00:00:37,580
ROSA'S RELEASE DOES NOT
PRESENT ANY RISK TO THE STATION

15
00:00:37,580 --> 00:00:40,740
AND WILL NOT IMPACT UPCOMING
VISITING VEHICLE TRAFFIC.

16
00:00:42,186 --> 00:00:44,436
AN EXPERIMENT ONBOARD THE
STATION COULD CONFIRM THE

17
00:00:44,436 --> 00:00:48,076
HYPOTHESIS THAT MICROGRAVITY
ACCELERATES THE AGING PROCESS.

18
00:00:48,980 --> 00:00:51,480
SPACEFLIGHT IS KNOWN TO
AFFECT CARDIAC FUNCTION,

19
00:00:51,480 --> 00:00:54,700
BUT THE BIOLOGICAL BASIS FOR
THIS IS NOT CLEARLY UNDERSTOOD.

20
00:00:55,176 --> 00:00:57,166
NASA ASTRONAUT PEGGY
WHITSON WORKED

21

00:00:57,166 --> 00:00:59,760
IN THE MICROGRAVITY
SCIENCE GLOVEBOX THIS WEEK

22
00:00:59,760 --> 00:01:02,060
TO TEST THE FUNCTIONAL
EFFECTS OF SPACEFLIGHT

23
00:01:02,060 --> 00:01:03,920
ON CARDIOVASCULAR STEM CELLS.

24
00:01:04,360 --> 00:01:07,880
THIS EXPERIMENT INVESTIGATES HOW
MICROGRAVITY AFFECTS STEM CELLS

25
00:01:07,880 --> 00:01:10,300
AND THE FACTORS THAT
GOVERN STEM CELL ACTIVITY,

26
00:01:10,300 --> 00:01:12,560
INCLUDING PHYSICAL
AND MOLECULAR CHANGES.

27
00:01:13,066 --> 00:01:15,616
THIS EXPERIMENT COULD HELP
CLARIFY THE ROLE OF STEM CELLS

28
00:01:15,620 --> 00:01:18,460
IN CARDIAC BIOLOGY AND
TISSUE REGENERATION.

29
00:01:19,700 --> 00:01:22,340
THIS WEEK'S TWITTER QUESTION
COMES FROM @EMMADDOCTOR.

30
00:01:22,466 --> 00:01:23,646
HE WANTS TO KNOW
IF THERE IS A WAY

31
00:01:23,646 --> 00:01:25,756

TO WATCH A LIVE VIDEO
OF SPACE EVERYDAY?

32

00:01:26,436 --> 00:01:27,366
THE ANSWER IS YES.

33

00:01:27,920 --> 00:01:30,760
THE HIGH DEFINITION EARTH
VIEWING EXPERIMENT ONBOARD THE

34

00:01:30,760 --> 00:01:33,516
STATION WAS ACTIVATED IN 2014

35

00:01:33,516 --> 00:01:36,786
AND INCLUDES SEVERAL COMMERCIAL
HD VIDEO CAMERAS AIMED

36

00:01:36,786 --> 00:01:39,286
AT THE EARTH WHICH ARE
ENCLOSED IN PRESSURIZED

37

00:01:39,286 --> 00:01:40,796
AND TEMPERATURE CONTROLLED
HOUSING.

38

00:01:41,246 --> 00:01:43,476
WHILE THE CAMERAS COLLECT
BEAUTIFUL IMAGES OF THE EARTH

39

00:01:43,476 --> 00:01:45,656
FROM THE STATION,
THE PRIMARY PURPOSE

40

00:01:45,656 --> 00:01:47,356
OF THE EXPERIMENT IS
AN ENGINEERING ONE.

41

00:01:47,726 --> 00:01:50,756
MONITORING THE RATE AT WHICH
THE HIGH DEFINITION VIDEO CAMERA

42

00:01:50,756 --> 00:01:52,866
IMAGE QUALITY DEGRADES
WHEN EXPOSED

43

00:01:52,866 --> 00:01:55,896
TO THE SPACE ENVIRONMENT,
MAINLY FROM RADIATION DAMAGE.

44

00:01:56,320 --> 00:01:59,520
THE EXPERIMENT ALSO HELPS VERIFY
THE EFFECTIVENESS OF THE DESIGN

45

00:01:59,520 --> 00:02:01,280
OF THE HOUSING FOR
THE THERMAL CONTROL.

46

00:02:01,680 --> 00:02:06,680
VISIT [NASA.GOV/NTV](https://www.nasa.gov/ntv) TO VIEW THE
LIVE VIDEO OF EARTH FROM SPACE.

47

00:02:07,526 --> 00:02:09,586
KEEP SENDING YOUR
QUESTIONS USING THE HASHTAG