1
00:00:05,590 --> 00:00:03,350
the history of stars is written in the

2
00:00:07,909 --> 00:00:05,600
light of the countless galaxies in which

3
00:00:09,990 --> 00:00:07,919
they reside

4
00:00:12,230 --> 00:00:10,000
staring long enough and even a small

5
00:00:15,030 --> 00:00:12,240
patch of sky like hubble's ultra deep

6
00:00:16,630 --> 00:00:15,040
field will reveal thousands of distant

7
00:00:19,189 --> 00:00:16,640
galaxies

8
00:00:21,189 --> 00:00:19,199
but the image of a galaxy tells only

9
00:00:23,910 --> 00:00:21,199
part of the story

10
00:00:26,950 --> 00:00:23,920
by spreading the galaxy's light out into

11
00:00:29,830 --> 00:00:26,960
a spectrum astronomers can learn about

12
00:00:31,990 --> 00:00:29,840
the ages of its stars its star formation

13
00:00:34,549 --> 00:00:32,000

history and more

14
00:00:36,950 --> 00:00:34,559
the best way to get the whole story

15
00:00:40,069 --> 00:00:36,960
would be to reveal the spectra of every

16
00:00:42,470 --> 00:00:40,079
galaxy in an image all at once

17
00:00:44,709 --> 00:00:42,480
fortunately nasa's dancy grace roman

18
00:00:46,709 --> 00:00:44,719
space telescope has hardware designed to

19
00:00:49,110 --> 00:00:46,719
do just that

20
00:00:51,270 --> 00:00:49,120
even better its remarkably large field

21
00:00:52,950 --> 00:00:51,280
of view can cover the area of a hundred

22
00:00:54,630 --> 00:00:52,960
ultra deep fields in a single

23
00:00:57,189 --> 00:00:54,640
observation

24
00:00:59,029 --> 00:00:57,199
such a bounty of galaxy spectra will

25
00:01:01,270 --> 00:00:59,039
help astronomers discover hidden

26
00:01:02,380 --> 00:01:01,280
chapters in the universe's history of