To start I will say a few words about the history of the telescope

Then I Will explain what is the Hubble telescope

Then what it does

And I Will Finish with a conclusion

The Hubble Telescope was funded in the seventies

Normally it must be launched in 1983 but because of technicals delay, budget problem and the destruction of the shuttle Challenger it will only run in 1990.

When finally launched in 1990, there was a problem with the main mirror.

Therefore they send a shuttle in 1993 to solve the problem.

In 1995 They Began an experiment. That's what we'll talk about in this presentation.

The Hubbe telescope is out of the atmosphere. It can observe the sky day and night in the same way, and he has no problem with the clouds or pollution.

It can perceive light from infrared to ultraviolet. More than the visible specter by humans.

It has a focal length of 57m60. For compare a standard camera as a focal length between 20 and 300mm

It has a visual accuracy of 0.1 arc seconde

It’s not difficult to explain. If we take a circle, we divide it by 360° then we take 1° of this circle and we divide it by 60 we have 1 minute of arc we divide it again by 60 we obtain an arc second the tenth of that is the accuracy of the telescope.

What does it do?

In 1995 we seek a corner in space where there is almost nothing it seems to be totally black

And Hubble takes pictures of this area during 8 days with 4 different wave length (300nm, 450nm, 606nm and 814nm)

The area who was photographed is an arc 5.3minute² area (1/28000000 of the sky)

To compare if the screen was a full hd screen (1920 lines by 1080 columns) > more than 2 millions pixels. We take one pixel on this screen and we zoom on it then we take 7% of this pixel, this is the size of the area that Hubble photographed

it is equivalent to a football ball 1km away

The result of the pictures is incredible, in the small black area that Hubble photographed during 8 days, we saw more than 3000 galaxy (in one twenty-eight millionth of the sky)

Conclusion

We discovered that there were hundreds billions of galaxy in the sky. And there is billions of star in each galaxy.