

OBJECTIVES

After completing this lab, the student will be able to:

1. make a list of some current, or planned, telescopes in space.
2. discuss the types of observations the telescope can make or will make.
3. discuss why these observations are important to our scientific knowledge of the universe.
4. describe any new technological developments related to each mission.
5. discuss the relevance of each mission to society.

STUDENT MATERIALS

pencil
note pad

LAB MATERIALS

The instructor should provide the following:

high speed computer with Internet connections

STUDENT REQUIREMENTS

Students may work alone or in teams of not more than three. However, each student is expected to write his own mission reports, not simply copy from other team members. Turn in all of your mission reports at the end of your lab period.

INTRODUCTION

Currently there are several astronomical telescopes orbiting the Earth. The most famous of these is the Hubble Space Telescope. It is the largest of the space telescopes and operates at wavelengths in the infrared, visible, and ultraviolet. The images it

produces are extraordinary and highly publicized, which has made it famous. However, there are other space telescopes operating in the far-ultraviolet, x-ray, and gamma ray regimes of the spectrum. These telescopes are sponsored by NASA, NSF, ESA, foreign governments, universities, and private enterprise. Some of them are long-term missions which last several years and others are one-shot missions lasting only a few minutes. During this lab, you will attempt to identify several of these astronomical platforms. These may include recently completed programs, current missions, and possibly some planned missions in the future.

PROCEDURE

1. Read over the report forms so that you will know what type of information to look for about each. Use a note pad to write down each bit of information as you find it.
2. Some places to start your search include the following sites: <http://www.nasa.gov>, <http://www.ball.com/aerospace/cobe.html>, and <http://www.stsci.edu>. You may also want to use a search engine such as Lycos, Yahoo, etc., to locate additional information or to locate any other space telescopes. Try to find three different telescopes or missions.
3. On separate Space Telescope Report forms, list the title and launch date for each space telescope identified.
4. Answer the questions on the report forms about each mission. Use additional pages if necessary.
5. Staple your report forms together and turn them in by the end of lab class.

4. Describe some of the observations obtained by the telescope or describe anticipated observations to be made in the future.

5. Why are the observations listed above important to science?

NAME: _____

LAB SECTION: _____

6. What big questions do these observations help to answer which are important to human beings like you and me? (For example: COBE observations help confirm the Big Bang Theory and the origin the universe. These observations provide a link in the chain that helps us learn more about the origin of the Earth and humans on the earth.)

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