

Chapter 9 Notes, Galileo

Breakthroughs

Astronomical breakthroughs:

Improved the telescope and first person to use one for astronomical observations.

Found the moon's surface was covered with mountains and craters.

Found four moons orbiting Jupiter.

Found the “rings” of Saturn.

Found that Venus has phases like the moon.

Important detailed study of the sunspots. We discussed this in class.

Discovered hundreds more stars that aren't visible to the naked eye.

Physics breakthroughs:

Extensive studies of kinematics laying the foundation for Newton's subsequent work in mechanics.

Emphasized the importance of relative velocities in analyzing motion

Developed the regularity of pendulum motion into a means of measuring time intervals

Reported detailed fluid studies and mechanical engineering studies.

Published his work “**Dialogue Concerning Two New Sciences**” on his 30 years of studies in physics

In class we reviewed his book

“Dialogue Concerning the Two Chief World Systems – Ptolemaic & Copernican”

This book is of astronomical and physical importance. It also reveals the societal context in which

Galileo lived. After the book was found “vehemently suspicious of heresy” he was sentenced to house arrest. During his house arrest his book “**Dialogue Concerning Two New Sciences**” was smuggled out of Italy and became available to physicists elsewhere.

See the link in the Lecture Notes: [galileo.htm](#)