

Abstract Submitted
for the 4CF09 Meeting of
The American Physical Society

Exoplanet's Atmospheres Characteristics vs. Exoplanet's Orbital Elements¹ KARAN MOLAVERDIKHANI — 400 years after Galileo Galilei was detected Jovian system, we know about 400 exoplanets in other stellar systems. But we identify just about their major properties like some of orbital elements, planet's radii or density. Also, there are many scientists who interested in searching for life or habitability on these planets. They are working in different ways such as planetary formation, planetary orbital stability or immigration, HabStars, composition of atmospheres, most probable zone in sky for exoplanets detection, etc. In this research we distinct and defined some main characteristics of terrestrial planet's atmospheres with surveying on solar system's planets and matching with current theorems on atmosphere formation. On the other hand, we were modeled Mars, Venus, Titan, single Hadley Earth and virtual Venus with different tilt angel (applying Global Circulation Modeling) to finding a critical limit on Polar Vortex formation in our last research. With extension this method on hypothetical terrestrial planets in constraint mass between 0.7 to 2.5 Earth's mass on Green Belt and applying host stars from 0.5 to 1.5 Sun's mass, we found some limitations on planet's atmosphere formation and estimation values of atmosphere's main characteristics.

¹We gratefully acknowledge professor Lee for his helpful guidance and NStED collaboration.

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Date submitted: 25 Sep 2009

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