

Cape Cod Astronomical Society

Minutes of the July 11, 2013, meeting

Attendance: Total: 30: Members: 28 Guests: 2

President Mike Hunter opened the meeting at 7:35 P.M. and welcomed members and guests. Mike informed members that CCAS has several telescope that members can borrow. Mike next brought everyone up to date regarding work being done on the CCAS website.

The speaker for the evening was Dr. Larry Marschall. Dr. Marschall has been a frequent lecturer for our organization, and once again gave an excellent presentation. Please see link for more information regarding Dr. Maarschall.

<http://www3.gettysburg.edu/~marschal/clea/lam.html>

The lecture for the evening was entitled '**Wrong Way Planets and Other Strange Solar Systems**'.

Until 1995 astronomers did not have any evidence that there were any planets other than the ones in our own solar system. This brings up the question "is our solar system typical?". Our solar system contains planets that are small and dense, with rocky cores that are nearer to our star (the Sun), As we move outward, the planets are much larger and less dense and are called gas giants. The first extrasolar planet to be discovered was called 51 Pegasi and was discovered in 1995. Please see link for more information,

[http://www.bbc.co.uk/science/space/universe/key\\_places/51\\_pegasi](http://www.bbc.co.uk/science/space/universe/key_places/51_pegasi)

Even though astronomers felt that there must be many other solar systems throughout the universe, there had been many roadblocks in the way when it came to finding these remote objects. One difficulty in finding these objects is the fact that glare from the nearby star can overshadow the planet. Astronomers use many methods to detect planets. If they cannot directly observe the planet, they may be able to detect it by observing motion or wobble. Astronomers use a method called radial velocity to detect planets. This is a technique that uses the fact that there is a gravitational effect on both the star and planet that has small but detectable changes in the speed of the planet and its star. It is also known as Doppler spectroscopy. Astronomers also use transits to detect planets. NASA launched the Kepler Planet Finder in 2009 in order to seek out planets with instruments in orbit that are located above our atmosphere. To date, there are 3900 planets candidates, with 900 confirmed as planets.

Astronomers have found that planets in other solar systems are not necessarily like ours. An example of this is the fact that other solar systems may have gas giant planets in close orbit to the local star. Earlier today, scientists announced the discovery of HD189733B or the Azure planet. It is located approximately 63 light years beyond our solar system and is bright blue in color.

It is also considered a gas giant planet.

There are also many strange new worlds to be discovered. Some examples are Hot Jupiters, or planets orbiting close to the sun and have high temperatures. Scientists think they probably formed farther out in their solar system and then migrated closer

to their star. Planet Eating Stars appear to consume planets in nearby orbits. There are also Puffy Planets and also planets in unexpected, non-coplaner orbits. Astronomers now have many new tools to help locate stars with solar systems.

### **Observatory Report**

Bernie Young brought us up to date about news from the AAVSO.

The meeting was adjourned at 9:25 P.M.

Respectfully submitted,

Charles Burke