



Berkeley Public Library
Weekly Sky Report
December 23 – December 29, 2018

Space Stations

The **International Space Station** (ISS) had some great passes over Berkeley last week and now it is the Chinese space station, **Tiangong 2's** turn. This empty vessel had crew visits when it was first launched, but now it is just a platform for the Chinese to study as they prepare their next station. The core module of the new station, named Tianhe, or Harmony of the Heavens, is expected to be launched in 2020. Two other experiment modules, Wentian and Mengtian, as set to join with the first. Their combined mass will be much smaller than the International Space Station, but it should be larger than the Russian Mir space station.

Dec. 23, 5:26pm West South West, Altitude 10°; 5:29pm North North West, Altitude 67°; 5:32pm East North East, Altitude 10°; Magnitude 1.2

Dec. 24, 6:04pm West North West, Altitude 10°; 6:07pm North, Altitude 35°; 6:08pm North East, Altitude 25°; Magnitude 2.0

Dec. 27, 6:21pm West North West, Altitude 10°; 6:24pm North, Altitude 37°; 6:24pm North North East, Altitude 36°; Magnitude 1.8

Comets

There is a comet passing by us in the southern Berkeley sky. It may be visible with your naked eye, but use binoculars if you have them or a telescope, which **you can borrow from the Central Library!**

Comet 46P Wirtanen This week the moon will be less of an hindrance for spotting this comet. Check a web site like heavens-above.com to locate it.

Hubble Space Telescope

The famed telescope will be passing over Berkeley every evening this week. Here are the best chances. The telescope will be coming from the South West horizon on to the South East a little before the first listed time.

Dec. 26, 6:16pm South, Altitude 22°; 6:19pm South East, Altitude 12°; Magnitude 2.8

Dec. 28, 5:55pm South, Altitude 21°; 5:58pm South East, Altitude 10°; Magnitude 2.9

Dec. 30, 5:44pm South, Altitude 20°; 5:48pm South East, Altitude 10°; Magnitude 3.0



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www.berkeleypubliclibrary.org

nasa.gov, space.com & New Horizons

This week will be a good time to look at these wonderful web sites. NASA always has something interesting to check out, whether it's a space walk at the International Space Station, or coverage of one of the increasingly frequent rocket launches around the world. Both sites will be covering the approach of the New Horizons space probe to the object nicknamed Ultima Thule. This will be the most distant planetary body yet surveyed. The closest encounter will be on January 1st, and leading up to this pass, the object has shown itself to be fairly mysterious because of the readings it has given so far. There may be two bodies orbiting each other or have a cloud of dust surrounding it. New Horizons will likely send home amazing photos and analysis of Ultima Thule as the probe makes its way out of the solar system. This will be just the fifth human made object to achieve escape velocity and exit the confines of our home star. So far, the information it has gathered about Pluto continues to reveal new features of this dwarf planet. It has also confirmed the presence of a hydrogen wall at the outer edges of the Solar System. Stay tuned to see what other secrets New Horizons will reveal.

Much of the information for this report comes from the wonderful web site, Heavens Above. You can enter your home city location and bookmark it for easy access: <http://www.heavens-above.com>. Other sources include: <http://www.space.com> and <http://www.nasa.gov>. And check [space.com](http://www.space.com) for launches.

Recommended Reading

Space Stations : The Art, Science, and Reality of Working in Space. By Dr. Gary Kitmacher, Ron Miller and Robert Pearlman.

There have been more than ten orbiting stations capable of supporting humans. Most have been military in nature. The Russian Salyut series went through six versions, two of which were occupied for years. Their follow-up station, Mir, was the long distance champ and had cosmonauts on board for 4,594 days out of the 15 years it orbited Earth. The first section of the International Space Station (ISS) was launched 20 years ago last month and has been continuously occupied for 6,620 days. There have been 215 crew and visitors to the ISS, compared with 125 for Mir. If this kind of information interests you, then you will enjoy this book on the history and science of space stations. It describes the first dreams of orbiting structures, such as Jonathan Swift's Laputa, an artificial structure that was levitated by means of a giant magnet. It concludes with accounts of the possible space colonies that are beginning to feel closer all the time.

This **Sky Report** is brought to you by Berkeley Public Library's [Cornerstones of Science](#), which is funded in part by the Silberstein Foundation. Cornerstones of Science is part of a multi-library initiative to bring STEM (Science, Technology, Engineering and Math) programming to patrons.



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