



## The Warren Astronomical Society Paper

P.O. Box 1505

Warren, Michigan 48090-1505

[www.warrenastronomicalsociety.org](http://www.warrenastronomicalsociety.org)

Volume 37, Number 6 //

**2005 WAS OFFICERS**

// July, 2005

President

1<sup>st</sup> VP (program chairperson)

2<sup>nd</sup> VP (observatory chairperson)

Secretary

Treasurer

Director, Publications

Director, Public Relations

Ken Bertin

Norm Dillard

Riyad Matti

Bob Berta

Jim Shedlowsky

Vince Chrisman

Marty Kunz

email: [syzygie@aol.com](mailto:syzygie@aol.com)

email: [jupiter1927@sbcglobal.net](mailto:jupiter1927@sbcglobal.net)

email: [riyadmatti@yahoo.com](mailto:riyadmatti@yahoo.com)

email: [biker123@netzero.com](mailto:biker123@netzero.com)

email: [jimskeebros@cs.com](mailto:jimskeebros@cs.com)

email: [thexfiles@hotmail.com](mailto:thexfiles@hotmail.com)

email: [solarmartykz@aol.com](mailto:solarmartykz@aol.com)

The WASP (Warren Astronomical Society Paper) is the official monthly publication of the Society. Each new issue of the WASP is mailed to each member and/or available online [www.boonhill.net/was](http://www.boonhill.net/was). Requests by other Astronomy clubs to receive the WASP, and all other correspondence should be addressed to the editor, Cliff Jones, email: [cliffordj@ameritech.net](mailto:cliffordj@ameritech.net)

Articles for inclusion in the WASP are strongly encouraged and should be submitted to the editor on or before the first of each month. Any format of submission is accepted, however the easiest forms for this editor to use are plain text files. Most popular graphics formats are acceptable. Materials can be submitted either in printed form in person or via US Mail, or preferably, electronically via direct modem connection or email to the editor.

Disclaimer: The articles presented herein represent the opinions of the authors and are not necessarily the opinions of the WAS or the editor. The WASP reserves the right to deny publication of any submission.



### Astro Chatter

by Larry Kalinowski

It happened! Comet Temple 1 got its back scratched with a little help from NASA. Early in the morning on July 4, the plume from a small car sized probe disintegrated as it met the surface of the comet. The picture on the left shows the time of impact, captured by the mother probe. Hopefully, instruments will be able to tell what the composition of the interior is like. There were many telescopes trained on the event all around the Pacific Rim. The western states had a better chance to see the crash than Michigan did because the comet was near or below the western horizon at the time. More close up shots of approach can be found on the Internet.



There was an attempt to place a 100-foot solar sail into orbit, last June 21. A Russian submarine was supposed to put the unfolded sail into a low polar orbit. Apparently, Cosmos I failed to make it into orbit. The launch was successful but orbit insertion wasn't. It was a joint venture between the Americans and the Russians. A private attempt to place a new fangled satellite into operation. It held a promise of low cost propulsion, perhaps to the stars. Will there be another attempt? Maybe. The total cost of the venture was about four million dollars. Not outrageously expensive when you consider the costs of other satellite attempts. They say we learn by our mistakes.

In my opinion, the Clarkston Community Concert was quite successful, considering there were nearly four hundred people attending (Vince's estimate) during the poor weather. It was hot and muggy, but a slight breeze kept the grounds tolerable. After the first round of speakers gave their spiel and the





pixel size and higher JPG quality and you can get very high resolution images. It is limited to JPGs at this time...but that hasn't been an issue for me. While it is very quick...don't rush it...give it time to complete its operations...obviously at higher resolutions it will take a bit longer...but even with 8 shots at 4MP each it was very quick...just seconds. The file is quite small so even a dial up connection can download it very quickly.

It was developed for non-astronomy pictures but it works just as well for astronomy. To give it a test drive try taking a series of hand held terrestrial shots ...maybe 4 side ways and than to up and shoot a second level above the first bunch with a slight overlap of all the images. Now you go to the program and open those individual shots and it will quickly and automatically place them in the correct order and do a perfect job of matching, smoothing transitions, etc.

The link to download the program is: [WWW.AUTOSTITCH.NET](http://WWW.AUTOSTITCH.NET)

*The following article appeared in an issue of the San Francisco Amateur Astronomers newsletter. The past president was out to visit family here and got together with me. He wrote a very nice article in their newsletter about the visit and the tour I gave him of Stargate. It is on page 10 and 11 of the newsletter which can be found at: <http://www.sfaa-astronomy.org/sfaa/newsletter/pdfs/2005-05.pdf>*

**Visiting Bob Berta and the Stargate Observatory  
Michael Portuesi, San Francisco Amateur Astronomers**

Over the weekend of April 22-24, I traveled from San Francisco to Michigan (where I grew up) to visit my aunt for her 80th birthday. I had planned on stopping to visit Bob Berta, who I know well from our times with the San Francisco Amateur Astronomers. Little did I know Bob lives only a 10-minute drive away from my brother's home! That made visiting Bob



Photo 1: Bob Berta at the entrance to Stargate Observatory (Warren Astronomical Society).

easy



Photo 2: Stargate Observatory. The shed behind the dome houses the 22-inch Dobsonian. The dome houses the 12-5 inch classical Cassegrain

Bob gave me a nice tour of his house (VERY big and VERY nice), and I got to say hi to his family. Then we went on a tour of his club observatory, the Stargate Observatory.

I wanted to take my family out to observe through the telescopes, but due to a freak of nature it was snowing all weekend. The week before had clear skies and even 80-degree days. It was 32 degrees outside and snowing when we arrived at the observatory! Nevertheless, I took a few photos of the very nice setup Bob's club has put together. Stargate observatory houses a 12-5 inch hand-built classical cassegrain and a 22-inch truss-tube

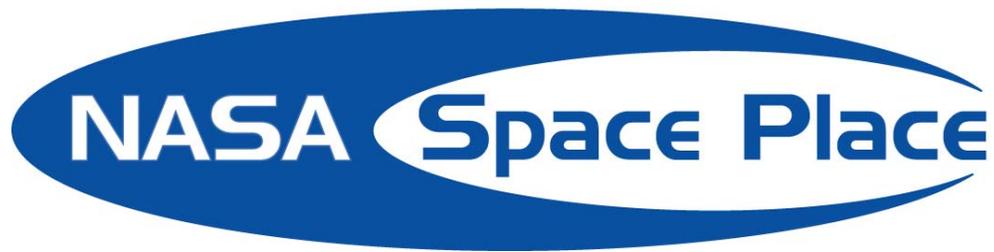


Dobsonian. Both are very nice scopes. The empty field is the area outside the observatory, where the club conducts star parties and public observing sessions. The observatory is only a five-mile drive from Bob's house. It's situated on land belonging to the public park system, and the park management

actively supports the club and the observatory. Photo 3: The 22-inch Dobsonian. It is an Obsession-style design, and has removable wheels for easy transport out on to the observing field.







## **Moving a Mountain of a Dish** **by Patrick L. Barry**

Your first reaction: “That’s impossible!”

How on earth could someone simply *pick up* one of NASA’s giant Deep Space Network (DSN) antennas—a colossal steel dish 12 stories high and 112 feet across that weighs more than 800,000 pounds—move it about 80 yards, and delicately set it down again?

Yet that's exactly what NASA engineers recently did.

One of the DSN dishes near Madrid, Spain, needed to be moved to a new pad. And it had to be done gingerly; the dish is a sensitive scientific instrument full of delicate electronics. Banging it around would not do.

“It was a heck of a challenge,” says Benjamin Saldua, the structural engineer at JPL who was in charge of the move. “But thanks to some very careful planning, we pulled it off without a problem!”

The Deep Space Network enables NASA to communicate with probes exploring the solar system. Because Earth is constantly rotating, a single antenna on the ground can communicate with a probe for only part of the day, when the probe is overhead. By placing large dishes at three locations around the planet—Madrid, California, and Australia—NASA can maintain contact with spacecraft around the clock.

To move the Madrid dish, NASA called in a company from the Netherlands named Mammoet, which specializes in moving massive objects. (Mammoet is the Dutch word for “mammoth.”)

On a clear day (bad weather might blow the dish over!), they began to slowly lift the dish. Hydraulic jacks at all four corners gradually raised the entire dish to a height of about 4.5 feet. Then Mammoet engineers positioned specialized crawlers under each corner. Each crawler looks like a mix between a flatbed trailer and a centipede: a flat, load-bearing surface supported by 24 wheels on 12 independently rotating axes, giving each crawler a maximum load of 194 tons!

One engineer took the master joystick and steered the whole package in its slow crawl to the

new pad, never exceeding the glacial speed of 3 feet per minute. The four crawlers automatically stayed aligned with each other, and their independently suspended wheels compensated for unevenness in the ground.

Placement on the new pad had to be perfect, and the alignment was tested with a laser. To position the dish, believe it or not, Mammoet engineers simply followed a length of string tied to the pad's center pivot where the dish was gently lowered.

It worked. So much for "impossible."



*Giant Deep Space Network antenna in Madrid is moved using four 12-axle, 24-wheel crawlers.*

## Curved Collectors By Vince Chrisman

I spent Memorial Day weekend with my family in Chicago and we had the opportunity to visit "America's First Planetarium" the world renowned Adler Planetarium and Astronomy Museum. The Adler is celebrating its 75 anniversary this year with many exciting programs. Travel to Chicago from Detroit is a short 4-½ hour trip. This is easily within a day trip or better yet stay the night and take in the exciting nightlife of Chicago.

The Adler Planetarium is very unique because it houses three different complete planetariums, two that are full size. Atwood Sphere, Chicago's oldest planetarium, was constructed in 1913. The sphere is 15 feet in diameter with 692 holes drilled through its metal surface, allowing light to enter and show the positions of the brightest stars in the night sky. The Atwood was first used to train Naval Sea Cadets on constellations and navigation.

Sky Theater, Adler's Zeiss Planetarium spectators gaze in wonder as they observe a re-creation of the night's starry sky projected on the 68-foot dome of the first planetarium in the Western Hemisphere. This Theater opened up to the public in 1930. Since then, the original Zeiss planetarium projector has been updated to a new Mark VI Zeiss unit projector. The Sky Theater seats three hundred visitors.

StarRider Theater Adler's Interactive Theater sets forth on a voyage of discovery under the dome of the world's first interactive computer graphics Theater. Inside, visitors embark upon an exhilarating virtual voyage of discovery as they actively participate in the journey with operating controls located on seat armrests. This revolutionary three dimensional graphics projection system allows real-time audience participation and is part of the same

technology developed for military and commercial aircraft flight simulators.

The Adler's historical collections of astronomical instruments and rare books are among the finest in the world. When Max Adler founded the Adler Planetarium & Astronomy Museum in 1930, he recognized the need to exhibit artifacts from the history of astronomy as well as to establish the first planetarium theater in America.

In addition to the Zeiss planetarium projector, he purchased a collection of about 500 astronomical, navigational, and mathematical instruments from A. W. M. Mensing in the Netherlands. These instruments formed the foundation of the Adler's History of Astronomy Collection, which has since grown to almost 2000 historic instruments. This makes it the largest collection of such material in the Western Hemisphere and one of the largest and most important in the world.

In addition to housing these instruments, the History of Astronomy Department is home to a significant library of rare books, a collection of astronomically-themed works on paper, and a modern reference library and research center. The Adler Planetarium and Astronomy Museum is open Saturday & Sunday 9:30 am – 6:00 pm in the summer. Admission prices are; \$14 for students, \$15 for seniors and \$16 for adults. If you have never been to the Adler or it's been a long time you should consider a visit as it is one of the finest planetarium and astronomy museums and best of all it's located near our back yard. For more information, check the website at: <http://www.adlerplanetarium.org/>

Date: Saturday 07/30/2005

Time: 2:00 P.M.— 1:00 A.M.

# Picnic



## WARREN ASTRONOMICAL SOCIETY

- *Bring a picnic lunch & dinner with snacks & beverages.*
- *Hotdogs and hamburgers provided along with a grill.*
- *Chairs, sun shades, screen tents and tents are welcome.*
- *For Sale/Swap Shop. Clean out your closet of all your unused astronomy related equipment .*
- *Special presentations at 5:00, 7:00 & 9:00 P.M.*
- *Contests & games throughout the day.*
- *Dress for the Michigan summer.*

### STARGATE OBSERVATORY

Stargate Observatory is owned and operated by the society. Located on the grounds of Camp Rotary on 29 Mile Road, 1.8 miles east of Romeo Plank Road.



### Camp Rotary

20505 29 Mile Road  
Ray Township, MI 48096

**Don't forget  
your telescope!**

Contact person: Riyad Matti, 2nd VP  
Phone: 586-598-5400