

The W.A.S.P. newsletter

December 2005



The Warren Astronomical Society Paper

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Volume 37, Number 12 //

2005 WAS OFFICERS

// December, 2005

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The WASP (Warren Astronomical Society Paper) is the official monthly publication of the Society. Each new issue of the WASP is e-mailed to each member and/or available online www.warrenastronomicalsociety.org. 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

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



Looks like Pluto, our unresolved asteroid or planet, has more than one moon. The Hubble telescope has spotted two more moons. With three moons it could be the most populated asteroid that we know about. Several asteroids have moons orbiting them, but none have three. It wouldn't surprise me if more were found around that planet. There has been a moon population explosion over the last ten years or so.



How would you like to find a meteorite the size of the one pictured, being held by Steve Arnold in Kansas. Weighing in at 1,400 pounds, it's a stone-metal composite that has been known since the late 1800's. Others have been found in the same area. It's called a Brenham meteorite, named after the area where they've been found in the

past. This one is the third largest one known and was detected by sensitive instruments while it laid seven feet underground.



Sunspot number 822 is shown in the solar picture. The date is November 17 and it has just moved far enough around the Sun's photosphere to provide easy viewing for white light telescopes. It too, is larger than the planet Jupiter, as other prominent spots have been in the past. Just why these large spots are appearing so late in the Sun's cycle is puzzling to astronomers.

NASA has just finished making measurements of the space around the Earth to help determine if space is actually curved and effected by the Earth's rotation as predicted by Albert Einstein. Space-time should have a little twist in it because of the rotation and the Gravity Probe B (GP-B) should be able to detect it. If space-time is twisted, it should effect super sensitive gyros within the probe. These gyros are accurate

Board Meeting Minutes 11/07/05 Cranbrook

By Bob Berta

Meeting started at 6:51

Members in attendance:

Jim Schedlowsky	Norm Dillard
Bob Berta	Marty Kunz
Riyad Matti	Dale Partin

Bob read minutes and approved

Riyad – Observatory report. Request that board ask membership if any of them would be interested in donating a non used gun safe or similar security device for use at Stargate....ok'd for meeting following.

Jim – More info on banner to Marty. Cost is \$54.99 for banner and 4 signs for trailer not to exceed \$125.

Marty – Reported on attendance at Mars Fridays at Cranbrook.

Late Notices

Due to a death in Riyad Matti's family the open house scheduled for Dec. 3 will be postponed and rescheduled to Dec 10. Details to follow.

One of our members, Richard David, passed October 17 2005 after a long illness. Richard was a member since November 1996.

Therese Oldani (prospective new member) is planning a night sky viewing for 5th grade academic gifted students and friends to be held in Livonia at

Grandview School. If you are interested, please email Therese at toldani@clarenceville.k12.mi.us or call 248-473-8913. We will keep you posted as to times and dates.

Not just for Kids:

Black Hole Rescue!

Nearby matter is not the only thing attracted by a black hole. These mysterious objects also attract a great deal of curiosity from kids here on Earth. Taking advantage of this interest, NASA's Web site for kids, The Space Place, has just added a new game called "Black Hole Rescue!"

After (or before) reading a short, illustrated article introducing black hole concepts, game players "rescue" the vocabulary words, one letter at a time, before they get sucked into the black hole. After playing this mesmerizing game for a while, kids of all ages will not soon forget what black holes are all about.

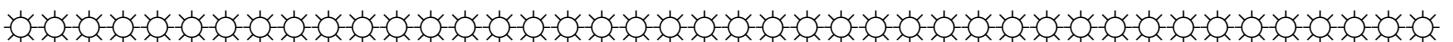
<http://spaceplace.nasa.gov/en/kids/blackhole/>



M42 by Philip Martin

UPDATED SPEAKER LIST FOR 2005

12/5/2005	MONDAY	RICHARD SZUMANSKI	T.B.D.
12/15/2005	THURSDAY		AWARDS BANQUET





Voices from the Cacophony

By Trudy E. Bell and Dr. Tony Phillips

Around 2015, NASA and the European Space Agency plan to launch one of the biggest and most exacting space experiments ever flown: LISA, the Laser Interferometer Space Antenna.

LISA will consist of three spacecraft flying in a triangular formation behind Earth. Each spacecraft will beam a laser at the other two, continuously measuring their mutual separation. The spacecraft will be a mind-boggling 5 million kilometers apart (12 times the Earth-Moon distance) yet they will monitor their mutual separation to one *billionth* of a centimeter, smaller than an atom's diameter.

LISA's mission is to detect gravitational waves—ripples in space-time caused by the Universe's most violent events: galaxies colliding with other galaxies, supermassive black holes gobbling each other, and even echoes still ricocheting from the Big Bang that created the Universe. By studying the shape, frequency, and timing of gravitational waves, astronomers believe they can learn what's happening deep inside these acts of celestial violence.

The problem is, no one has ever directly detected gravitational waves: they're still a theoretical prediction. So no one truly knows what they "sound" like.

Furthermore, theorists expect the Universe to be booming with thousands of sources of gravitational waves. Unlike a regular telescope that can point to one part of the sky at a time, LISA receives gravitational waves from many directions at once. It's a cacophony. Astronomers must figure how to distinguish one signal from another. An outburst is detected! Was it caused by two neutron stars colliding *over here* or a pair of supermassive black holes tearing each other apart in colliding galaxies *over there*?

"It's a profound data-analysis problem that ground-based astronomers don't encounter," says E. Sterl Phinney, professor of theoretical physics at the California Institute of Technology in Pasadena.

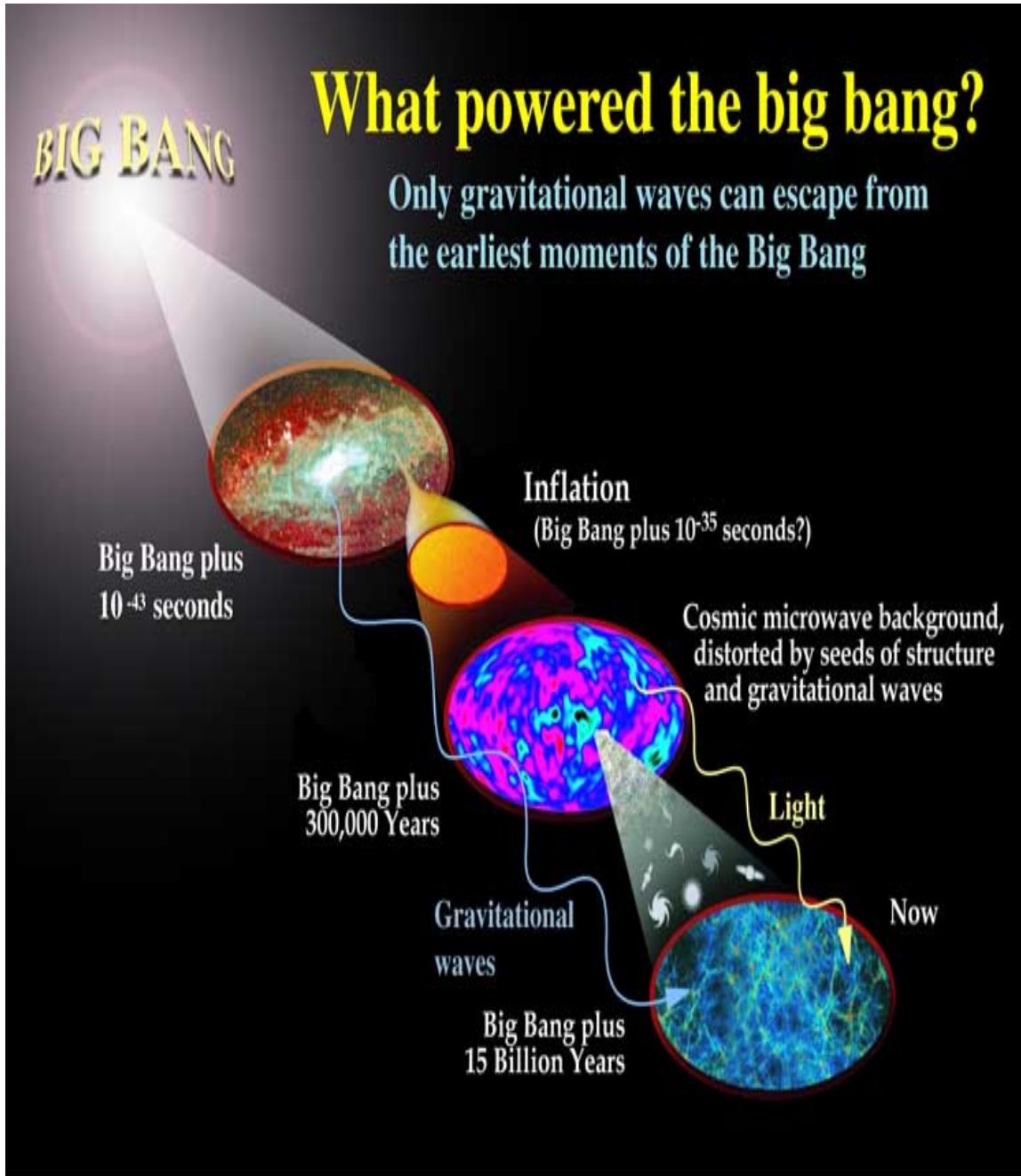
Profound, but not hopeless: "We have lots of good ideas and plans that work—in theory," he says. "The goal now is to prove that they actually work under real conditions, and to make sure we haven't forgotten something."

To that end, theorists and instrument-designers have been spending time together brainstorming, testing ideas, scrutinizing plans, figuring out how they'll pluck individual voices from the cacophony. And they're making progress on computer codes to do the job.

Says Bonny Schumaker, a member of the LISA team at the Jet Propulsion Laboratory: "It's a challenge more than a problem, and in fact, when overcome, a gift of information from the universe."

For more info about LISA, see lisa.nasa.gov. Kids can learn about black holes and play the new “Black Hole Rescue!” game on The Space Place Web site at <http://spaceplace.nasa.gov/en/kids/blackhole/>.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



LISA will be able to detect gravitational waves from as far back as 10^{-36} second after the Big Bang, far earlier than any telescope can detect.