50th Anniversary Year

Astro Chatter

The Very Large Telescope observatory in Chile can now combine light from four telescopes with interferometry. This set of images were recently captured of the binary star system SS Leporis using four 1.8 meter Auxiliary Telescopes at separation distances of about 130 meters. Approximately one millisecond resolution was achieved using the new PIONIER instrument.

The image sharpness here allows the size of the red giant star to be measured more accurately than before. It's smaller than previously thought. That means that instead of material streaming from the larger star to the smaller star, a gentler system where a stellar wind is expelled from the larger star and captured by the smaller and hotter companion. The companion has already consumed about half the larger stars' mass.

One can hardly wait for all four 8.2 meter VLT telescopes to get involved. A single 8.2 meter telescope can image 30th magnitude objects in an hour. Four scopes collect the light of a 16.4 meter.

The Kepler mission has been finding extrasolar planets faster than they can be confirmed. While two confirmed exoplanets match the criteria for habitability, Gliese 581d and HD 85512b, the catalog now has 15 exoplanets and 30 exomoons as potential habitable places.

The Kepler mission detects exoplanets using the transit method. For this method to work, the candidate planet must pass in front of the star from our line of sight. Kepler then detects a change in the brightness of the star. One way to confirm such an exoplanet is to use spectroscopy and look for the wobble of the star under the influence of a planet. However, for Earth sized planets at Earth orbits around Sun like stars, this method is not (yet) sensitive enough. Another method is to wait for 3 transits. This must take a minimum of about 2 years. If Kepler happens to observe a transit early in it's observing schedule, it's about a year before the 2nd transit. It's another year, or about 2 years, for the 3rd transit. If the 3rd transit happens at the predicted time, then one can be pretty certain that it is, indeed, a planet.

One can get the size of the exoplanet from the amount of dimming. One gets the orbital distance from the period. The details of the dimming can reveal exomoons, and even retrograde orbits (where the expoplanet orbits the opposite way that the star rotates). We'll need much larger space telescopes to learn about atmospheres.
The SWAP SHOP
This column is for those interested in buying, trading or selling. Ads run for six months. The month and year the ad will be removed is shown. Submit ads to Stephen Uitti, 313 389-5609 publications@warrenastro.org.

FOR SALE: Late 1970’s model Criterion RV-6 Dynascope 6" Newtonian reflector. Original owner. Well used, but good condition. Mirrors rarely cleaned and could use another cleaning. Original pier, German equatorial mount, setting circles, finder scope and Ramsden eyepieces. Clock drive motor died & replaced with a hand-made manual slow-motion control. Includes hardware for mounting a camera & solar projection screen. I can no longer lift it and am looking for something smaller and lighter. Asking $200 or best offer. Contact Brian Klaus 586-731-0011 [12-2011]

FOR SALE: 12" Meade Lightbridge Dob with light shroud and shipping boxes. Also, 16" Meade Lightbridge with light shroud, rain cover and shipping boxes. Best offer on one or both. Contact John Rasmussen 248-858-3559 [5-2012]

FOR SALE: 2 year old Celestron CGEM 800 telescope (8” SCT, Eq mount, Go To), with accessories purchased at the same time including the Celestron Power Tank. Asking $1800 for the entire set up. Please feel free to call with any questions. David Rumble 586-295-5853 [3-2012]


FOR SALE: 14 eyepieces: 5 mm Ortho, 7 mm, 7.4 mm Tele Vue, 8 mm RKE, 12 mm EDSCORP, University 12.5mm illuminated plossl, 16 mm University Konig, 17 mm Tele Vue, 18 mm Criterion, 23 mm & 24 mm University Plossl, 25 mm super plossl, 26 mm, 40 mm University plossl. Barlows: Criterion CP-4 2 No. 2 focal reducer. x, Meade variable tele 2x-3x Video eyepiece, SBIG ST-5C , SBIG ST-7 JMI Moto-focus Scopes: 80 mm refractor - 400 mm FL (below) Meade 102 mm SCT 1000 mm FL. Celestron 45 degree diagonal Contact Brian Johnston at 248-622-6612 or Bjohnston47@comcast.net [12-2011]
FOR SALE: Large 30” x 40” NASA 1982 framed Manned Space Achievements poster. Starting with Mercury it shows all the teams, logos and descriptions of the flights. NASA stickers that represent the flight logos. Several front pages from these flights including Shepard etc. Can be brought to meeting. nbiz@sbcglobal.net [12-2011]

FOR SALE: Excellent condition classic LX-200 Meade 12” (not GPS) with a good collection of Meade eyepieces and accessories. DSI Meade camera. Also: a Russian Maksutov of around a 5” aperture. Joe Tringali 586-663-0816 or BlipsterJoe@gmail.com [5-2012]

FOR SALE: Meade 10” LX200 Goto SCT with heavy duty field tripod and accessories. Asking $2500.00 for everything. More photos all items. Call Tom, noon to 7 pm: 248-446-0072

FOR SALE: 18 inch Starmaster Telescope with f/4.3 Zambuto mirror and Strehl Ratio: 0.987. Everything is in good to excellent condition. It comes with the Sky Commander DSC’s, dew heater, Telrad finder, Televue Paracorr, wheel barrow handles, custom truss pole carrying covers, StarStep Observing Chair, and Starmaster oak mirror storage box. NOW $5,995 or Best Offer! Scope Located in Plymouth, Michigan 48170… Pick up only. w8tu@comcast.net Jim Frisbie [5-2012]
Diane Worth, dianewsky-night@yahoo.com or 248-980-7832 sells club logo clothing (hats, shirts, sweatshirts, jackets). Stephen Uitti brings the catalog to meetings.

**Astronomical Phenomena - January 2012**

Day Hour Event (Times in EST)

<table>
<thead>
<tr>
<th>Day</th>
<th>Hour</th>
<th>Event</th>
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<tbody>
<tr>
<td>11</td>
<td>1</td>
<td>First Quarter</td>
</tr>
<tr>
<td>3-4</td>
<td></td>
<td>Quadrantids Meteor Shower</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Moon furthest from Earth</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>Moon 5.0° N of Jupiter</td>
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<tr>
<td>5</td>
<td>5</td>
<td>Sun closest to Earth</td>
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<tr>
<td>5</td>
<td>14</td>
<td>Pleiades 2.8° N of Moon</td>
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<tr>
<td>6</td>
<td>13</td>
<td>Aldebaran 6° S of Moon</td>
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<tr>
<td>9</td>
<td>12</td>
<td>Full Moon</td>
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<tr>
<td>10</td>
<td>0</td>
<td>Pollux 10° N of Moon</td>
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<tr>
<td>12</td>
<td>18</td>
<td>Regulus 6° N of Moon</td>
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<tr>
<td>13</td>
<td>13</td>
<td>Venus 1.2° S of Moon</td>
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<tr>
<td>14</td>
<td>11</td>
<td>Moon 9° S of Mars</td>
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<tr>
<td>15</td>
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<td>Annualar Solar Eclipse</td>
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<td></td>
<td></td>
<td>Africa to China</td>
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<tr>
<td>16</td>
<td>14</td>
<td>Last Quarter</td>
</tr>
<tr>
<td>16</td>
<td>23</td>
<td>Moon 6° S of Saturn</td>
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<tr>
<td>18</td>
<td>2</td>
<td>Moon closest to Earth</td>
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<tr>
<td>19</td>
<td>16</td>
<td>Antares 4.3° S of Moon</td>
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<tr>
<td>21</td>
<td>17</td>
<td>Moon 1.8° S of Pluto</td>
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<tr>
<td>22</td>
<td>18</td>
<td>Moon 4.8° N of Mercury</td>
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<tr>
<td>23</td>
<td>12</td>
<td>New Moon</td>
</tr>
<tr>
<td>25</td>
<td>5</td>
<td>Mars stationary (retro)</td>
</tr>
<tr>
<td>25</td>
<td>17</td>
<td>Moon 6° N of Neptune</td>
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<tr>
<td>26</td>
<td>23</td>
<td>Moon 7° N of Venus</td>
</tr>
<tr>
<td>28</td>
<td>7</td>
<td>Moon 6° N of Uranus</td>
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<tr>
<td>29</td>
<td></td>
<td>Mars Opposition 62e6 miles</td>
</tr>
<tr>
<td>30</td>
<td>19</td>
<td>Moon 4.5° N of Jupiter</td>
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<tr>
<td>30</td>
<td>21</td>
<td>Mercury furthest from Earth</td>
</tr>
<tr>
<td>30</td>
<td>22</td>
<td>Moon furthest from Earth</td>
</tr>
<tr>
<td>31</td>
<td>9</td>
<td>First Quarter</td>
</tr>
</tbody>
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**Observatory Rules**

1. Closing time depends on weather, etc.
2. May be closed one hour after opening time if no members arrive within the first hour.
3. Contact the 2nd VP for other arrangements, such as late arrival time. Call 586-992-0498.
4. An alternate person may be appointed to open.
5. Members may arrive before or stay after the scheduled open house time.
6. Dates are subject to change or cancellation depending on weather or staff availability.
7. Postings to the Yahoo Group and/or email no later than 2 hours before starting time in case of date change or cancellation.
8. It is best to call or email the 2nd VP at least 2 hours before the posted opening with any questions. Later emails may not be receivable.
9. Generally, only strong rain or snow will prevent the open house... the plan is to be there even if it is clouded over. Often, the weather is cloudy, but it clears up as the evening progresses.

- Bob Berta, 2nd VP

**2011-2012 Stargate Observatory Open House**

Dec 3, Jan 21, Feb 18, March 17, April 21 & 28

**2011-2012 WAS Meetings**

Cranbrook Meetings: 1st Mondays
Jan 9, Feb 6, March 5, April 2, May 7, June 4

Macomb Meetings: 3rd Thursdays
Jan 19, Feb 16, March 15, April 19, May 17
Events
15 Dec – WAS Annual Banquet 50th Anniversary

WAS 2011-2012 Upcoming Presentations

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Dec</td>
<td>David Cinabro</td>
<td>Doomed, Insignificant and Ignorant</td>
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<tr>
<td>5 Dec</td>
<td>Chuck Dezelah</td>
<td>Open Clusters: The Trumpler Classes</td>
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<tr>
<td>9 Jan</td>
<td>Bob Berta</td>
<td>Aliens on Earth</td>
</tr>
<tr>
<td>9 Jan</td>
<td>Fred Gluckson</td>
<td>Asymmetry in the Cosmos</td>
</tr>
<tr>
<td>19 Jan</td>
<td>Dave Bailey</td>
<td>Classical Novae</td>
</tr>
</tbody>
</table>

Seven Ponds Open Invitation
WAS members are invited to The Seven Ponds Astronomy Club monthly meetings. More information about upcoming meetings, maps to Seven Ponds Nature Center, etc. is available at at http://bhmich.com/sevenpondsac/. Please let me know if you might attend so that appropriate plans can be made. Any questions, please contact me.

- John Lines

Oakland Astronomy Club newsletter
http://oaklandastronomy.ulmb.com/oacnews.html

Clear skies,
- Bill MacIntosh

50th WAS Banquet
It’s time to reserve your place at the 50th ANNIVERSARY CELEBRATION AND ANNUAL BANQUET of the Warren Astronomical Society! Thursday, December 15, 2011

Place: DeCarlos Restaurant and Banquet Center in the Fiesta Room , 6015 E. 10 Mile Road near Mound in Warren 48091

Time:
OPEN BAR opens at 6:00 PM.
DINNER at 7:00 PM.
PRESENTATION at 8:30 PM.
AWARDS AND RAFFLE at 9:30 PM.

Cost: $30 per person.

RESERVATIONS REQUIRED!

Speaker: WAS History Committee & Guests

Topic: Celebrating 50 years of the WAS

THE PRESENTATION For our 50th anniversary, Jonathan Kade is coordinating a presentation about the Warren Astronomical Society: its history, its members, its achievements and struggles. Please join us for this important evening to celebrate what the WAS has been, is now, and will be. Learn about the founders of the WAS, the people who kept it going through hard times, and perhaps get some insight into how we can keep our favorite local institution going for another fifty years.

W.A.S. History S.I.G.

With the holiday season hitting full stride, the digitizing effort has diminished somewhat. We’re not saying it has gone full stop, but it may be a while before the next batch (1983) goes online.

In the meanwhile, I’ve selected some December covers for show and tell:

December 1970/January 1981 features an article on the constellation Gemini by Tim Skonieczny, a suggestion for our observatory’s name and a reflector vs. refractor duel.

December 1971 gives us a Star of Bethlehem intrigue.

December 1975 offers a “must read” in the Telescope and the Bicentennial article by R. Bullock.

And December 1986 reveals Part II of “In The Beginning”, Frank McCullough’s astronomical biography.

Happy Holidays and now back to the scanner...

- Dale Thieme
SINE DIE
I've got you under my skin,
I've got you deep in the heart of me,
So deep in my heart that
You're really a part of me,
I've got you . . . .

– Cole Porter

It has been worthwhile, the President gig with our Society. This last couple of years as First Amongst Equals seems like the era of "Five Foreign Emperors" from Roman history. Most of the pleasure of serving the W.A.S. as officer for, unbelievably now, four years, was the high quality of the Board as a collectivity. In working with bright and usually focused people -- not the same thing -- there was incentive in keeping up with them. A good tactic which promised spirited interaction was acting morally and intellectually superior, worth the occasional acrimony.

Two policy concerns were always before me as I prepare for an invitation to "Leaders on Leadership" on Channel 56, which must be lost in the mail. These matters were joined under "imperial over-reach," and given my experience in other places I had a right to concern. David Brooks would recognise a "dispositional conservative" in the tradition of Burke, not the debased "conservatism" of contemporary America.

I. Having the Society entangled in continuing, possibly vast, commitments with other organisations makes one chary. By "other" or "continuing," what is not meant is our excellent meeting facilities at the Cranbrook Institute and Macomb C. C. Hip social scientists use the term "institutional capacity" which can be useful. Raison d'être is different, nowadays always manifested in silly "mission statements," but what is the Society's capacity? How much can we take on? It is a matter of judgment when tasks encourage an operation to stretch itself, as opposed to causing cracks to appear. Experience in metallurgy is not a prerequisite to understanding the analogy, a matter less of money than stamina.

II. Stargate was a constant source of concern, enumeration beyond this commentary. The Society, Rotary Club, and park authority all have much invested going back forty years. I know those who would summarily say, "junk it" because it is "obsolete." Such people are what Chesterton would call "modernity snobs" and whom I deem adolescent. On the other hand are better sorts who get "visions of sugar plums," which can be taken too far, granting it is better to have "pipe dreams" than not dream, cf. The Iceman Cometh.

The dispositional conservatism regarding Stargate is grounded in a great deal of experience with an observatory -- even with the beneficial participation of another entity -- as opposed to Cranbrook's which is wholly owned. I told a meeting in 2009: observatories can be a lot of work -- and not all fun work. One skips over the continuing expense.

The Warren Astronomical Society is a cultural gem, and those who join and especially those who attend meetings are the petit intelligentsia as opposed to the haute intelligensia, people with names on office doors and curriculum vitae.

I am familiar with the latter and frankly the Society members are more fun. Thanks for a lot of laughs and a sense of usefulness. I will be around, albeit less, but consider a long view. Like Peron, or better yet Trudeau, or the best looking, King Arthur, will he someday return?

Each ev'ning from December to December,
Before you drift asleep upon your cot,
Think back on all the tales that you remember . . . .

-Frederick Lowe

- Gary Ross
Cranbrook November General Meeting

President: Banquet Reminder. Introductions.
1st VP: Short talk and Main talk highlights to come. Speakers are scheduled through May 7, 2012. Name tags encouraged and are provided by club. In January, the Cranbrook meeting will be on the second Monday, January 9, because the first Monday is a holiday January 2.

Sheila Bennett Judd is our Hospitality person. Please volunteer to bring snacks. Please donate a dollar or any amount of your choice into the cup when you have snacks.

Discussion group is at Jon Blum’s house this November 21 8pm Blum residence.

2nd VP: Stargate Observatory available to members.

Treasurer: Check submitted to Astronomical League; Reflectors to be received in December.

Secretary: pitch for donations to raffle. – sign up was passed around.

Publications: WASP to be published soon, please feel free to submit articles.

Outreach: There have been two scouting groups at Stargate, with club members teaching them and showing astronomical equipment & astronomical objects. The next major outreach event will be the annual banquet, which members are encouraged to bring spouses and friends to.

Solar: Check weather for Aurora’s. Aurora pics next meeting due to time constraint and elections.

Hands on: Riyad reported invitation to Nov 19 for double star observation.

Radio: Lots going on with Jupiter.

Archivist: Dale Thieme just received two more packets to digitize.

Astro Imaging: Get together at Red Coat.

Special Interest Glaac report from Diane Hall. First meeting for 2012, September 21 and 22. Suggestions for smaller events over the year to develop momentum.

ELECTIONS: Rules reviewed by Ken Bertin.
17 November Macomb Meeting
Meeting called to order at 7:30 by 1st Vice President (and President-Elect) Jon Blum. President Ross not present tonight.

Blum distributed name tags and issued the call for snack-break hospitality volunteers. Evans Bletsas contributed a varied and filling selection of snacks for this meeting.

1st VP: Next meeting at Cranbrook will feature a long talk by David Cinabro of WSU and a short talk by Chuck Dezelah. There will be no meeting at Macomb next month because that is the date of the annual banquet at DeCarlo’s (see Jonathan Kade for tickets).

The January Cranbrook meeting will be the second Monday of the month on account of New Year’s. This month’s discussion group will be Monday 11/21, in its annual incarnation at Jon and Rosie Blum’s home. No restrictions on subject matter.

2nd VP: Next open house will be this upcoming Saturday, 11/19. Hope for clear skies!

Next Open House will be December 3rd.

The last open house featured an unsuccessful aurora hunt, great skies, and about sixty Scouts.

Treasurer: In October we submitted our paperwork for the Astronomical League and are a member organization once more.

501[c]3-- Gary Ross wrote up the narrative description and Dale Partin wrote the fund raising plan; Jonathan Kade hopes to have the paperwork submitted before his term ends.

We currently have 24 people signed up for the banquet; we hope to have at least 45, so please see Jonathan for tickets.

Secretary: Therese Oldani not present. Substitute minutes-taker Diane Hall encouraged all members to contact Dr. Phil Martin to place an order for 2012 WAS Calendars. Calendars will be printed in the very near future; expect them to cost between $17-$20.

Outreach: Dale Partin not present tonight. Some Scout events upcoming per Bob Berta.

Publications: Stephen Uitti not present; Stephen and incoming Publications Director Debra Chaffins look forward to your articles and other submissions.

Solar: Great solar activity ongoing. Bob Berta reported a "Golden Gate Bridge" effect on the sun and Bill Kippen's and Bob Trembley's aurora photographs were displayed for all.

Star Parties: Bill Beers reports nothing ongoing, though he and Jon Blum will have a "two person" star party at the top of Haleakala in February.

Hands-on: Riyad Matti will be available for double-star observing at Stargate on Saturday the 19th. The 8" Newtonian at Stargate turns out to be a nice scope for splitting double stars.

History: Dale Thieme and friends are still scanning and digitizing; please contact Dale if you want past issues of the WASP on your USB drive.

Astronomical League: Chuck Dezelah says new members of the League should expect their first issues of the Reflector soon. Those interested in the various clubs, especially a lunar club, should contact Chuck.

In the News: Ken Bertin presented the a time-lapse video of aurorae compiled from ISS footage; it is hosted on the WAS Facebook page. Ken then presented In The News, featuring an asteroid flyby, new revelations about Europa, the stalled Phobos-Grunt probe, the Moon's magnetic field, and the new Curiosity Mars rover.


50/50 Raffle; Gary Flatt won $13.00.

30 people in attendance.
Treasurer’s Report

ASTRONOMICAL LEAGUE: We received our acceptance letter to the AL. Dale T is bringing it to the board meeting.

NONPROFIT STATUS: Dale completed a draft fund raising plan. Gary has turned our list of activities into a narrative. I have been working on the annual financial reports for the last four years. After the banquet, I will review the application and plan to send it to the lawyers who previously advised us. At this time, only around $350 of the money that was previously allocated to legal consultation remains, so I will request another $400. I will ask the lawyers to limit their work on the application so that we can authorize additional funding before they bill us.

SKY & TELESCOPE BILLING ERROR: Sky & Telescope still have not refunded our $15. I am emailing them again to ask why this is taking three months.

INCOME AND EXPENDITURES: We took in $974.40 and spent $10.40. We have $7869.09 in the bank and $265.71 cash.

COSTS AND REIMBURSEMENTS
$4.36 to Gary Ross for mailings.
$1.88 to Gary for snacks.
$4.16 to Brian Thieme for nametag supplies.

INCOME
$780 for banquet tickets
$20 for calendars
$104 for renewals
$39.25 in donations at Cranbrook
$13.15 in donations at Macomb

January Cranbrook Talks
The main talk will be *Aliens ARE Here on Earth* by Bob Berta. Scientists are discovering new forms of life on earth that are drastically changing their thinking about life here on earth as well as the possibility of life in our own solar system as well as beyond our solar system. In his presentation Bob will discuss some of those strange "alien" life forms here on earth and the impact their discovery will have on our search for life beyond earth.

The short talk will be *Asymmetry in the Cosmos* by Fred Gluckson. The cosmos is overwhelmingly symmetrical. But when asymmetrical events do arise, attention must be paid. The Big Bang holds that matter and anti-matter were created in nearly equal amounts, a symmetry which would have pleased the cosmologists of the initial nanosecond. The background radiation seen in WMAP is thought to be the result of their annihilation. Some examples of asymmetry in today’s cosmos include Tidal locking, Pulsar kicks, and Asymmetrical supernovae.

January Macomb Talk
At the WAS meeting at Macomb on January 19, our speaker will be Dave Bailey. He will talk about *Classical Novas*.

A nova is not a star. It is a type of behavior exhibited by a type of star called a cataclysmic variable. These stars are nova specialists. They can produce dwarf nova outbursts, classical nova outbursts, and type la supernovas. The presentation will include some of the following sections:

- Cataclysmic variable stars
- Observing dwarf novas
- What are dwarf novas made of?
- How do dwarf novas work?
- Classical nova outbursts
- How does a nova outburst ignite?
- Ocean surface on a white dwarf?
- We have main engine ignition . . .
- We have booster ignition, and lift-off!
- Nova fusion: The rapid p-process
- Another kind of waves: earthquake waves?
- What happens after the fusion stops?
- A third kind of outburst: Supernova type Ia