



The Refractor

The Bulletin of the Eastbay Astronomical Society
Founded in 1924 at Chabot Observatory, Oakland, California

www.eastbayastro.org

Volume 89
Number 6
March 2013

This Month's Event:

The Rocks' Clocks Talk

Speaker: Bill Mitchell, remote lecturer
When: Saturday, July 20th, 7:30 PM
Where: Chabot Space and Science Center, Room:
Physics & Science Lab

Topic Highlights:

In the Earth's most recent mass extinction, around 66 million years ago, many of the Earth's plant and animal species---most notably the dinosaurs---became extinct. The precise cause, however, has been elusive: did volcanic activity in modern India, which erupted lavas covering an area 1-3 times the size of California, or a meteor impact in the Yucatan peninsula of modern Mexico cause the dramatic changes in climate that killed these species? Did the extinction take place over a year or two, or was it over the course of 100,000 years? Once the extinction happened, how long did it take for the ecosystems to recover and stabilize? Our desire to understand these events, and to better

understand the effects of rapid ecosystem changes, highlights the need for high-precision dating in geologic time.

Motivated by these questions, Bill Mitchell will discuss the work he and his colleagues have done to define the absolute age of the timing of the meteor impact extinction, and how those events fit with fossil evidence. Additionally, he will address the process of measuring the age of rocks and getting the rock's clocks to talk.

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Bill Mitchell is a chemistry PhD student at the University of California, Berkeley. He got started with chemistry research as a high school student in Minneapolis, MN, and in 2008 he received a BA in chemistry from Carleton College. Working with Drs. Paul Renne and Roland Mundil at the Berkeley Geochronology Center, Bill uses uranium-lead dating to determine the timing of events surrounding mass-extinction events around 66 million years ago and 252 million years ago. Outside of the lab, he enjoys volunteering at the Lawrence Hall of Science where he teaches visitors about Earth science. ★

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DINNER WITH THE SPEAKER

5:30 PM
Saturday, July 20
HUNAN YUAN
4100 Redwood Rd, #11
(next to Safeway)
Oakland
(510) 531 - 1415

No need to confirm---just show up!



Don's News 'N Views!

Howdy Astro Fans!

Something is different. What could it be? Oh, yes - it's HOT. We've had a couple of nights up at Wightman Plaza this last month that had me wishing I was walking around in my birthday suit and flip-flops, much less a long sleeve shirt and long pants. Is it just me, or is this whole global warming business actually beginning to manifest itself in realtime? I can only remember a few nights in July and August in prior years where it got like this; now it's happened thrice in June. Well, the "bright side" to all this is: better viewing for us amateur astronomers. We've been getting some spectacular views of Saturn, globular cluster M3, and even Venus in the early evenings. Our June MOVN (Member Only View Night) was amazingly well-attended, even though the weather was cloudy that night. Chabot has opened the event up to their entire membership, and as has been mentioned before, they've been taking enthusiastic advantage of this perk - how nice!

We did a daytime astronomy outreach event with about 50 Cub Scouts at Crab Cove in Alameda, and wowed 'em with views of solar prominences, a very nice bunch of sun spots, and even a peek at Venus during bright daylight. Scout Leader **David Coustier** kept things very well organized and orderly, a *miracle* considering the boisterous nature of little boys, and we moved them all through the four different



Rich Ozer having more fun than the kids using the club's 60mm Coronado SolarMax h-alpha telescopes

we had in less than an hour. EAS members **David Prosper, Jim Solar, Rich Ozer, Stan Schiffman** were our volunteers (plus me) this time around, so *thanks* guys!



Jim Solar working his white light filtered 5" Orion Maksutov-Cassegrain (Photo Credit: Don Saito)

A scary and somewhat heartening personal story: after the event, I broke down my gear and set it in a cluster on the edge of the parking lot, went to get my truck, and loaded up my table and chair. I got distracted by something, hopped in and drove off, leaving my \$5K Questar telescope and backpack containing books and eyepieces sitting there out by themselves, next to nothing else, sticking out like a sore thumb. I made it all the way up to Chabot to return the EAS Coronado h-alpha scope and mount we keep up there before I realized what I'd done, turned right around, and went back straight away. By the time I returned, about 40 mins had passed, and my stuff was still exactly where and how I'd left it. WHEW! My faith in humanity was restored.

Now that **Navbalsinder "Navi" Sandhu** is our newsletter editor, I thought I could help out the **Western Amateur Astronomers** group with their newsletter and website, so that's something else I've been up to, lately. We don't talk about the WAA much, but our club is a member along with 11 other clubs throughout the western United States, and one of their main functions is to select one person each year to receive one of amateur astronomy's most coveted awards, the G. Bruce Blair Award for meritorious conduct in the service of public astronomy. This year's award went to **Albert J. Highe**, and EAS board member **Rich Ozer** was the one who nominated him! Good job, Rich! You can read all about it and more by going here: <https://docs.google.com/uc?export=download&id=0B51869rZBwb5Qi1qWm1vNFRzSUU>. Please note that the PATS event listed on the last

(cont'd. from page 2)

page was cancelled, and that RTMC has already come and gone.

Finally, (busy month for me!) until the AstroWizard Dave Rodrigues has a bit more time from other concerns, I have taken over the administration of the Barcroft High Altitude Star Party, and this year's will be held Wed Sep 4 - Sun Sep 8. It's \$65 per person, per night, and those who register for the full time will have priority. Registration cuts off on Tue Aug 20, and there's room for a maximum of 10-12 attendees at any given time; as of this writing, there are two full time registrants. Barcroft is a totally amazing and rather extreme amateur astronomy event that the EAS and Tri-Valley Stargazers hold in conjunction in the White Mountains. For full info, visit our club website at <http://www.eastbayastro.org/index/Barcroft.htm>. To sign up, please contact me, directly at donsaito@yahoo.com, 510 301-2570.

That's it for now! Get out there, do some astronomy, write it up for the newsletter, and remember; pictures are always a plus! ★

Astronomical Society of the Pacific's 125th Annual Meeting!



ENSURING STEM LITERACY

125th Annual Meeting
Education & Public Outreach • Cosmos in the Classroom

Please come join us for some amazing lectures and discussions at San Jose State University, in San Jose, CA, July 20 – 24th, 2013. We'd love to see you out there! Check out the Welcome email and follow the instructions to take advantage of the Meeting App, to make sure you don't miss out on any exciting talks!

Please contact: David Prosper, david.prosper@gmail.com, or visit their website at: <http://www.astro society.org> for more information. ★

Share Your Summer Adventure With Us!

We love learning and expanding our knowledge on all things stars and science related, and would



Supermoon on June 23rd, 2013. (Photo credit: <http://www.twistedstifter.com/>)

greatly enjoy hearing about your own discoveries, seeing your photos and sharing with our fellow stargazers! Whether it's a quick iPhone photo on a moonlit walk, or a dedicated camera and telescope session for the planetary alignment, we'd appreciate the communal sharing! So go on, get out there, and show us what you find! ★

Check Us Out at First Friday!

Come and visit us at First Friday On August 2nd, hosted in Oakland, around Telegraph Avenue from West Grand to 27th Street, where many delightful activities await!

We've been working on increasing our presence and audience, and look forward to seeing you there! ★

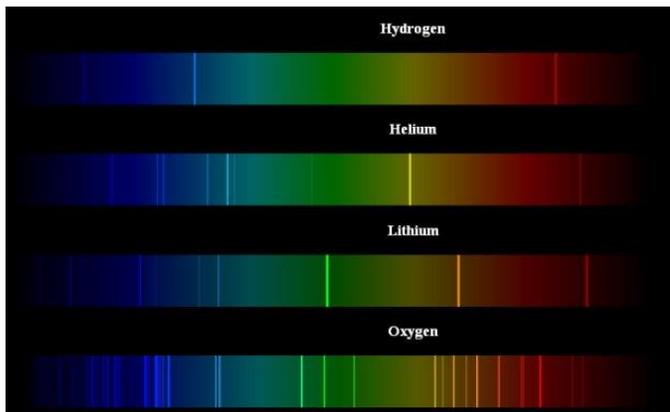


Our first booth at First Friday! (Photo credit: David Prosper)

Recap: An Introduction to Amateur Spectroscopy

Navbalsinder Sandhu

Tom Field beamed an amazing presentation and discussion on the development and application of spectroscopy in modern astronomy. He opened by guiding us through the discovery and evolution of spectroscopy as a science, with many engaging examples to relate the concept. In particular, Tom enjoyed engaging our younger crowd, creating parallels for better understanding. For example, he likened the spectroscopic reading of each element to a chemical fingerprint, allowing scientists to analyze and compare similarities as well as unique qualities of the object in question.



Spectroscopic fingerprints of common elements. Photo credit: <http://www.cosmic-horizons.blogspot.com/>

Perhaps the most interesting part of this discussion was the remarkably standard equipment Tom cited as ways to glimpse far off and away emissions, such as the Wolf Stars, comets and meteors. Using the emissions gathered, we can then determine what elements comprise that given object. To really bring the versatility of spectroscopy home, Tom also pointed out how the Doppler Effect can be detected, to find objects moving towards and away from us, as well as their relative spins, through the analyses of the measured emissions.

Though heavy fog made the observation deck chilly and damp, we greatly enjoyed the lecture, company, and of course David's awesome prizes! Thank you all who were able to join us! ★

Friend Us on Facebook!

Stay up to date and in the know by liking our page on Facebook! You can find us under EastBay Astronomical Society – we won't spam you, only share awesome astro-related news!



Eastbay Astronomical Society and Tri-Valley Stargazers: Barcroft (really) High-Altitude Star Party: Register Now!

September 4 - 8, 2013: Registration is open now for the Barcroft High-Altitude Star Party, \$65 per person, with priority given to peoples who are registering for all five days. Located just south of White Mountain in California's Owens Valley (Lat/Lon 37° 35.026'N, 118° 14.205'W), and at an elevation of 12,457' ASL, the BHASP may well be the highest regularly held star party in the world. It is recommended to take an extra day or so and acclimate at a mid-level altitude on the way up, if possible, and for those prone to altitude sickness. Remember, oxygen will be available, no need to be shy! ★



Photo courtesy of www.eastbayastro.org

For more info contact donsaito@yahoo.com.

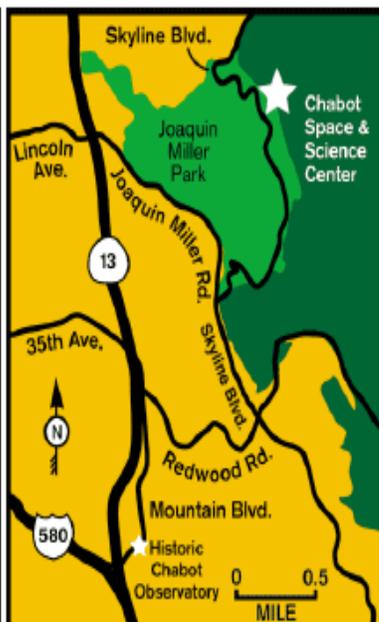


At Chabot Space & Science Center
 10000 Skyline Boulevard, Oakland, CA 94619
July 2013
 RETURN SERVICE REQUESTED

Eastbay Astronomical Society

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Articles and photos for *The Refractor* are highly encouraged! Deadline for AUGUST 2013 issue is July 31, 2013. Items may be submitted by mail to: Editor - 840 Villa Ave, Apt 22, San Jose, CA 95126. Email address: NavbalsinderSandhu@gmail.com HM: (408)-705-7417



FUTURE CONJUNCTIONS

JUL	11 EAS Board Meeting, Chabot, 7:30 PM
	14 EAS, MOVN, Wightman Plaza, 7:30 - 10:00 PM*
	20 EAS Lecture: TBD, 7:30 PM
AUG	08 EAS Board Meeting, Chabot, 7:30 - 10:00 PM
	11 EAS, MOVN, Wightman Plaza, 7:30 - 10:00 PM*
	17 EAS Lecture: Giant Scopes, 7:30 PM

*Always Call Gerald McKeegan to confirm: (925) - 926-0853

JOIN THE EASTBAY ASTRONOMICAL SOCIETY

- REGULAR, \$24/YR
- CONTRIBUTING, \$40/YR
- SUSTAINING, \$60/YR, or more
- FAMILY, \$36/YR
- STUDENT, \$15/YR

Contact: Richard Ozer, EAS Treasurer
 Email: roser@pacbell.net
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Sign up Online: <http://www.eastbayastro.org/>