

## **G. Chapter 7 - Astronomy**

### **Expansion of views! !**

#### **Have Telescope, Will Travel**

##### **Part One**

The SFAA, darker viewing sites, better equipment, involvement and information

The Orion nebula, around 1400 light years away and filling the wide field eyepiece in my new handmade telescope, out in my back patio in San Anselmo after dark. Choosing the most clear and still skies in the forecast before committing to spend several hours out there. I scan every visible patch of sky on most nights, with some reserved for specific sights — the Orion nebula is getting a good eyeful on this winter viewing session. It's depth and contrasts are irresistible! The foreground cloud is blacker than the surrounding space that is visible in the eyepiece. The brightness cast from what looks to be the four main stars in the central area, illuminating the gasses partially eclipsed by the dark foreground cloud, create this striking contrast. This is one of the most spectacular deep sky phenomena to check out with a good telescope!

But *what is really going on there?* And with so many incredibly more phenomenal discoveries to see?

Thanks to information provided by professional Astronomers, there is far more scientific facts available than I can absorb and retain; so I stick to a few basic facts that might be applicable at the time. The information

coming from various sources: online, Astronomy magazines and books — as I have been doing — and now sometimes the info gets a fresh boost by a lecture attended through the SFAA of which I became a member!

### **The SFAA [San Francisco Amateur Astronomers]**

A highly resourceful group of many benefits! I joined mainly for access to the Mt Tam star parties — the monthly Astronomy events held up in the optimally located Rock Springs parking lot — at the top of the foot trails leading to the dramatic, cascading Cataract Trail, which is one of the best trails on the mountain. The parking lot would soon gain substantial significance beyond a place to leave a car, but a gateway to the cosmos! The events allow SFAA members to set up telescopes to view from a relatively extra dark spot (for the bay area) above the city's lights (not perfect with quite a south glow), not in a valley so inversion problems are lessened, and as the SFAA newsletter is so aptly named — *Above The Fog!*

Winters into spring usually bring windy wet conditions, hard to schedule clear Saturdays in advance, so many star parties are cancelled around then. The weather gets better around May if we're lucky. Meanwhile, viewing nights are best planned spontaneously from home — often just within a couple of hours of a clear, calm forecast. And for SFAA events, the Wednesday evening lectures scheduled every month were consistently reliable (it helps that it's inside the Randall auditorium.) The presentations range from topics such as the science behind star clusters galaxies, black

holes, exoplanets and so much more! Given by professors and astrophysicists to space artists and other club members sharing well prepared presentations about their experiences. It's always interesting and boosts knowledge about our Astronomy obsession of what we are spending good time and energy to see.

A good socializing connector before each lecture is a coffee and snacks layout, usually a half hour before it starts. I'm glad to have joined for a great value for only \$30 per year. I found out about the SFAA through brochures picked up at Dobson's 90th celebration the previous summer. I was later encouraged to join by Ken Frank, then vice president of the club and fun socialite!

Worlds opened up. And I definitely signed up for the summer Yosemite trip!

### **The new telescope**

Back patio observing happened almost every night when weather conditions permitted. I recognized certain patterns that made choosing to go out worthwhile or not. Winds over 10mph caused the 'scope to rock too much. Moisture in the air would distort, and drastic temperature drops would increase inversion until hours later when temperatures above and below the valley evened out a bit.

### **The best nights**

Calm, clear and dark. I might research what to look for in advance by perusing the sky atlas, or read about in *Sky & Telescope* magazine. How about globular cluster M3, and maybe another try for the Whirlpool galaxy M51 just nearby

the circumpolar big dipper! Success after some meditatively paced scanning of the ' scope in those general vicinities. Blissed heights; realizing how far away it is — several hundred / thousands / millions of light years away! I can barely comprehend just one light year, let alone from here to our own sun!

It's all 1, 2, 3, **MANY**.

Conceptualizing space-time is a helpful observing mentality to take on. If the chart lists a galaxy as x light years away, then it takes x amount of commensurate time for its light to reach me here in the backyard. **Whew!** Color me amazed!

I scan on, bump into an unknown fuzzy patch, I look it up,... a distant, low magnitude open cluster M103 in Cassiopeia. Just one of many finds. Raccoons watch me curiously from the roof top above. It is a perfect night of thousands of stars, and I am in no hurry to stop this mesmerizing form of space travel.

### **Less perfect nights out back**

Clear sky, but riddled with high distortion; it's that pesky *inversion* again from being down in a valley.

Then there are the times when I'm really on the hunt for some dim magnitude galaxy. The telescope able to show not just one but a few faint ovals of the Markarian chain of the Virgo supercluster — just barely visible at all. **What!**

These galaxies are in the high millions of light years away! Yow — I'm on a roll!

And then the neighbors turn their lights on with the curtains open, ruining my night vision. **Argh**, an environment out of

my control. I hung a small tarp on the privits to baffle the direct glare, but too much glow.

The back area has been wonderful over the past few years of learning the deep sky, but now I need darker and more consistent skies. That's when I researched ideal Astronomy viewing sites just outside of the light polluted bay area. Online resources showed a few dozen good sites within a 200 mile radius, with ratings by local Astronomy buffs. The best looking one within decent range was a parking lot up above Lake Sonoma, just over an hour drive north. Plus I had heard about this from SFAA members. I looked forward to trying this area with the big 'scope!

First, Mt Tam...

### **Mt Tamalpais star parties with the SFAA**

A viewing space that I grew to know very well, that continued for several years. I'd heard about the public Astronomy events that happens up there before and always wanted to attend, surprised that I never got around to it until I became a member volunteer.

Spring of '06 was my first star party up there, for (i think?) the first public event of the year, usually in April. Conditions were fair enough to make the effort — and glad to have done so! Ken was very encouraging, for good reasons; these star parties are fun, informative in an absolutely phenomenal location! Reserved for where otherwise is blocked from night use by the park service.

To get there, it's the road to the top of the mountain where the roads meet at the T well over half way up the mountain — a place of dramatic beauty that is very familiar

from all of the hikes and bike rides there.

Mt Tam is where the four corners of the earth meet.

Always arriving early for a few key reasons. To park in a good spot. (i learned that facing the T of the intersection was good for a level telescope surface, and for the easiest departure point in the dark.) To spend quality time enjoying surrounding trails — in deep woods and with wide open views of the city and the vast Pacific Ocean as far to the horizon as possible — often fog covered as far as the eye can see, hence the name of the SFAA monthly newsletter, Above The Fog.

Commonly I'd come prepared with a burrito to enjoy on the nearby hill — supper with spectacular views! with cookies and coffee in the car for much later.

And the most essential reason to be there before dark, is to set up the telescope by dusk with the mirrors collimated. It's much too tricky to collimate in the dark. I've had to do it after arriving a bit too late, but it's a pain in the ass and usually less of a perfect alignment. These were lessons learned the hard way, and I adapted accordingly.

### **One more celestial Saturday night**

After a glorious hike, burrito at sunset, set up 'scope, hang out with other SFAA members who are also setting up their gear. There are a variety of different types of telescopes, from a few handmade that are varied in size and customization details; some use truss poles instead of a sonotube. Most of the 'scopes are factory made, expensive investments, some are with motor driven equatorial

mounts, both refractor and reflector telescopes. On public star party nights there might be an average of 15 telescopes setup. Mine was usually the most "*Dobson*" 'scope present, not only for its structure, but mine was always the only one without a finder attached!

There is a presentation by a science professional in the outdoor mountain amphitheatre just up the road, scheduled to begin at sundown, for the public who have been parking in the other half of the lot. I miss the lectures since I need to be with the telescope sitting out with the mirror cooling down with the air. Starting to bundle a few layers on for a chilly night ahead.

### *I found Jupiter!*

Yells the first one of us to spot a planet at twilight, while most of us have been targeted on the waxing crescent Moon, visible in the light for awhile and easy to find. Curious passersby get a look. From a few people up there specifically for the public Astronomy event, but are more interested in looking at the cosmos, to always a few hikers emerging from the trails returning to their cars, to be surprised to find a full lot and a dozen telescopes that weren't there earlier! Sometimes they would be highly interested and stick around for the rest of the event! That was fun to witness their surprised enthusiasm.

The lecture ends when it's good and dark. The crowds emerge in droves with most of them following night vision protocol, using supplied red cellophane covered lamps as they enter the telescope area. While unsurprisingly there is

always going to be some who simply don't get it, until someone yells "*turn the light off!*"

Combined with car headlights of ones leaving early, there is a bit of disruptive chaos during public viewing times, but it's still awesome!

## **Galaxy hopping**

I find some prominent deep sky highlights to show. It might be M81 & M82 in Ursa Major — *two galaxies for the price of one, and for free!* Is how I might announce it to the appreciative line forming. One of the galaxies is seen edge on giving its elongated shape, nicknamed the cigar galaxy - so be careful not to inhale too much! And other such silly quips to potentially make it memorable. If someone asks me how far away it is, I might remember a ballpark number, followed by "1, 2, 3, many millions of something light years away! I can't really comprehend such distance - but we're seeing it!" Definitely not a knowitall, but damn I can navigate my finder-less 'scope to another deep sky attraction, which might be the Trio in Leo — *three* galaxies for the price of one! I hop over to this in only a couple of minutes. The countless of hours of telescope time is showing. Beating the time it takes for others equipped with finders to find the targets.

The more humble telescope owners among us may ask how do I do it? I say it's easy, use your sense of geometry and how little to nudge your 'scope from the brightest star nearest to the desired deep sky object (studied in your star chart), and after finding it this way a few times, navigating there becomes memorized!



I grew to love sharing telescope views with the public as much — if not more — than observing in solitude. I didn't think I had it in me to offer education to the public, even as such condensed little nuggets of information. I took to preparing relevant notes in advance, supplying essentials my brain might not retain, such as distance, and accompanying interesting facts.

### **After hours**

After showing a dozen or so deep sky delights with the wonderful crowds (around 70?) They are forced to leave by 11pm or get their cars ticketed. A flurry of headlights spoils our night vision for awhile, then us SFAA members get to stay for hours of uninterrupted dark sky until about 2am! An excellent exchange. If conditions were good, most of the diehards for late hours remained for a good few hours of a mix of personal telescope time, to checkout others views. So fascinating to have such varied telescopes to look through! There were folks who I only knew by voice from those events, since we were in the dark. It was amazing how effective my night vision could adapt and see after no lights after an hour. I could walk around and see any obstacles, until a light went on from a car. Then after it goes off; blinded. It takes around 20 minutes of being in the dark to gain good night vision.

A few regulars of the time whose name i recall, are Dave Frey who was a student of Dobson who made more than one big telescope; I think he was using a 16" with truss

construction, requiring a van with a ramp, and a ladder. His impressive 'scopes always stand out at every star party! Michael Portuesi, another previous Dobson student, yet I only saw him using factory made telescopes — high end equipment. Michael really knows his stuff, and his voice recognizable as he might be enthusiastically describing the makeup of a nebula! Peter Schumacher who helped with Dobson's telescope making class, who has an excellent blue tube 'scope he made with a 10" mirror (?) And of course Ken Frank — totally socially engaged with every club member present, and good at recruiting new ones (like moi). He'd stop at my 'scope and we'd enjoy finding a few Messier and NGC objects.

There are more members whose names are forgotten, mostly from limited exposure. I will cover more names in an upcoming chapter about future years.

### *The Drive home*

We depart in small groups, after loading our equipment in our vehicles, led by an appointed gatekeeper who unlocks the gate at the bottom of the road ending at Pantoll ranger station. Sometimes we'd be driving slowly through the thickest fog (while it's crystal clear at Rock Springs parking lot where we just spent the past 8 hours) all the winding way to Mill Valley, then on to the freeway ramp with barely any traffic. What a mood.

I became a regular for years, but only if weather was favorable for telescope use. It was too rough a few trips, even if the telescope tube may be sturdy much of the time, it isn't good in windy conditions. I learned to not bother if

the weather forecast predicted over 9mph winds. A couple of times i simply packed everything back in the vw bus and enjoyed the lecture instead, which was fine.

The monthly *members only* nights sometimes attracted different SFAA members than the public events. More focused observing was a plus, with much less distractions for certain. I was one who preferred public nights — i love sharing the views with so many people. The event attracts a range of intelligent folks from all over the bay area, there are always fun social exchanges as I find fascinating sights for them — plus I get friends to show up! Joe and Jane made it up a few times back then, Kim made it, and Jim was in town in time for the June event that year — which featured excellent seeing conditions! Alisa was along for that one, even though she's not a late night person. It was one of many nights for the ages.

## **Lake Sonoma**

If I thought Mt Tamalpais has dark skies, I just didn't know about this spot, over an hour drive north, and I get to travel millions of light years! A dusty parking lot above and beyond Lake Sonoma, where reports show to be very Astronomy friendly, for the dark skies, and the local rangers are totally cool about telescopes being used there all night as long as they don't catch you sleeping there, warranting a ticket.

First try was with Alisa for a pleasant drive up, gauging the time consumed and scoping out the area. Almost perfect! With occasional cars pulling in as probably a teen party

space. Seeing telescopes setup seems to have shied them away. My 'scope collimated early, then a couple more telescope users arrive who live locally. Nice folks who are part of the Sonoma County Astronomy group. It's a Saturday night, learning that this is the most popular night near a new moon. For great reason... this is the darkest sky this telescope has been in yet! A noticeable glow from Santa Rosa, but the lot is nicely secluded by surrounding hills and trees. As the blue of the sky darkens slowly, the first star appears as a pindot of white light to focus on. Eventually constellations are apparent, followed by a patient wait for deep sky goals to be viewable. *Bingo!* I am now able to really see galaxies too faint in the bay area — I find the Sombrero galaxy! The Markarian chain! And NGC 4565! The Whirlpool galaxy (M51) looking fab! Plus so much more than I should spend time listing.

Oh, I am definitely returning here! And it became a favorite viewing area for years, making the trek an average of twice a month during good weather months, trying for once a month in rainy months, though that lot could get muddy, so I simply chose a more gravelly lot down the road. More obstructed by trees but still great overhead.

Mostly I was there in solitude unless it was a weekend. One time it was a popular Saturday night with about 7 telescopes! Some hailed from the SFAA, including coordinator Linda M — I think that was the time when surprise fog rolled in fast from the east and chasing us out early!

I made many deep sky discoveries up that way. Many that were too faint under bay area light.

One time a telescope owner brought a fantastic 16" who was up from the east bay, who knows many of the SFAA members, and really knows the sky. He showed me things I couldn't see, such as the Crescent nebula and the long, cascading Veil nebula. I found out that they require an *Oxygen 3 filter* (OIII), designed for planetary nebulas so I went to Scope City to buy one! Ken gave me an SFAA members discount.

The OIII was an excellent investment — boosting contrast enough to see the Veil nebula from the back patio!

### **Yosemite SFAA weekend!**

Going there every summer was somewhere already in the cards, and this specific Astronomy event was a major interest! The perks were great as a volunteer club member; free park entry, free camping, and all night access to the Glacier Point viewing area! Alisa and I loaded the VW bus with everything essential, and chugged our way east and up up up into Yosemite early that Friday morning. Upon stopping at the first lookout pullover to see Half Dome, we got out to stretch our legs and trip out on the view. Turning back to our vehicle, to see a pool of oil underneath it, filling the parking spot! Ugh! I checked it out — the oil drainage bolt came off. Trip ruined, we thought. Imagining tow fees, catching rides to accommodations somewhere far, and my telescope sitting vulnerably in the bus. Bummed panic. After flagging a ranger, who has good news; the garage is open in the center of Yosemite village and there is a towing service! Good thing that it wasn't much later, still mid-afternoon on a Friday. The guys at the garage were great —

a bolt and oil — they have it, and did not over charge. On the road just in time for the setup at Glacier Point!

### **Stunning...**

The sun setting against the gargantuan stone mountain walls encapsulated in the dramatic view. Now is the first night of two that weekend, and picking up where I started with the Preface. This is the beginning of a fantastic involvement, not the end.

There are perhaps 15 or so different types of telescopes setting up, like on Mt Tamalpais, but in a much higher elevation, barely any light pollution, and one of the most dramatically beautiful national park spots in the nation. Ken is good to see, making the rounds, Peter Schumacher is there with his wife from Germany and their daughter (lovely folks, I need to remember their names), Dave Frey, to name a few who I knew. During cool down period, it's fun to point the telescope across the valley on Half Dome — reflector telescopes show an inverted image. The mirror flips the orientation, but it doesn't matter for celestial viewing, since there is no terrestrial reference.

The interested public gather in the circle for a presentation talk by the older ranger who has been doing this for decades and is good at it. Pointing out the highlights that everyone should see through the telescopes, (summer highlights in Sagittarius, the Ring nebula, Whirlpool galaxy, etc. And a huge favorite — M13, the strong globular cluster in Hercules!), how to respect light by using red lights only, and to take your time absorbing the views.

Saturn and the crescent Moon are the starting sights as the sky darkens. And when it does, the Milky Way is so bright it seems like you could read by it. A zillion stars pop out, and the deep sky objects have definition above what I see at Lake Sonoma!

I spend quality time in our galactic center — a jewel box of fantastic nebulas and clusters, with distinction. The Swan nebula (M17) is a graceful sight that is fun to show. The public hail from around the world, and having a marvelous Yosemite visit! Some ask to see something that the ranger mentioned; maybe planetary nebula M57, the Ring nebula. Okay, as I swing my telescope in a different direction, I bend lower to sight along the edge of the rocker box, to find the bright star Vega, nudge the bearings over a few degrees down, back and forth slightly between the two dimmer stars of the small constellation Lyre, find the Ring looking like a smoke ring in space, pop in a stronger lens, the Ring nebula! A gas shell of a star that went supernova. Looking good out here!

Back to Sagittarius, for the distinguished Lagoon and Trifid nebulas! And near the Lagoon nebula is a unique feature against the density of Milky Way stars — Barnard 86, a dark foreground cloud that I call “the ink spill in space” it's so black!

The audience start to leave after probably having a full day, leaving the skies for us to explore. Finding more low magnitude visions for the first time,... The Owl nebula, whispering a faint owls face from above, not far from the Whirlpool and its companion, showing more definition. The

Pinwheel galaxy! The Saturn nebula in Capricornus! Naming a few, and shared among us late night observers too excited by this extra stellar sky to sleep! Even Alisa who usually fades earlier is into it. Everyone is in a good mood. Sharing views with Peter and Barbara, and others. Often there is someone from outside of the group who can't get enough and sticks around for more, they are totally understood and welcome.

Most of us stay until the Andromeda galaxy is up, and then M33, the galaxy in Triangulum, filling the wide field eyepiece with a blueish green tinted face on spiral.

*Ahhhhh...* A dreamy sight to take to the campground.

More of the same for the second night! Conditions are not quite as perfect as the previous night, but still wonderful. We decide that night one had the upper hand! A grand weekend, with short day hikes involved. Yosemite is always mindblowing, and this astronomical level amps it up by giant steps! I couldn't wait to return.

## **Modifications**

Not wanting to drag our poor old '71 VW bus to the mountains again after the break down, I figured out how to use our new Prius. By cutting the sonotube in half, inserting a tube section inside so the top half slides on the bottom half — like a mailing tube — securing it with thumbscrews, I got it to work like a charm! It all fits in the back of the Prius perfectly, with room for the passenger. The test run back to Yosemite proved my labors successful!

Another unexpected thing happened on the return to



Yosemite... On most summer weekends, a different Astronomy club may have their star party at Glacier Point, and they welcome additional telescopes! This happened during the following year of 2007.

### **The TARDIS and The Third Eye**

Since I have two homemade telescopes, they ought to have names. Dobson has *Tumbleweed*, and *The Little One* (ha - - with the 24" mirror), *The Ugly Duckling*, etc. I loosely named my first 'scope after Doctor Who's British police box-shaped time and space travel vehicle, the *TARDIS* (Time And Relative Dimension In Space) It is a blue box, and given its cosmic light gathering ability, is bigger on the inside! Mainly, I'm an old diehard Whovian.

*The Third Eye* was a title that simply sprang up naturally. I painted an eye shape around the eyepiece holder lest there's any doubt where to look through.

### **Sidewalk Astronomy with the 12.5"**

I enjoyed getting either of my telescopes out in Fairfax at the Good Earth, depending on how much energy I wanted to spend. The 6" was better for spontaneous SA, Working excellently. The 12.5" was more eye catching, towering up to 7 feet tall. People would turn their cars around after seeing it from the corner of their eyes when passing by on Drake Boulevard! That was always fun.

### **Dobson**

Between being a world traveller, John Dobson would be at home doing sidewalk Astronomy, usually at 9th & Irving,

sometimes at 24th & Noe, doing lectures, and fitting in cosmology class at his home, for free. [I will attempt to write about his cosmology classes in the following chapter.] I did get out for more SA with JD a few times, and he was impressed by how I bisected the telescope tube for easier, compact transport!

Sidewalk Astronomy is something I became comfortable doing, and on a whim. Spending times with JD and volunteering at SFAA events has warmed me up for interacting with the public. This takes a good sense of social skills in addition to having enough knowledge of what I am showing. One type I don't want to be is a smarty-pants know it all. I'm merely an amazed amateur; an artist who loves to share what I think are important and fun visions that are rarely accessed by the majority of us. Call me a disciple of Dobson, whose ideal is for everyone with telescopes should get them out on the sidewalks for everybody to have a chance "to see where the hell they are!" I was blown away by this, and it's a joy to supply the cosmic views for others! It was great to discover that I had it in me to do so — not just by owning telescopes, but having the drive and knack.

### **Offering the unexpected**

Someone would walk by, looking a bit tired after probably a day of work. I'd be out with either one of my 'scopes, in the city or Fairfax, and say "check out Saturn's rings! It's free and not to be missed." They might hesitate, then agree to take a few seconds. To hear that surprised "**WOW!!!** Is that

*real?* It looks like a graphic." I say yes, it's really Saturn, live and in person, from around 700 million miles *that way*. Pointing out how the reflector telescope operates so simply. They walk on in an uplifted mood! After being surprised by this unexpected public service. There are always people too preoccupied to bother, which is expected. I have to be prepared for occasional potential trouble with individuals who don't have manners. I was a strong looking guy so no one went too far beyond my control. Most everyone was grateful and respectful, but there could be occasional drunks who would touch the telescope despite my requirements to be hands off. Some almost knocked it over, then I would have to get tough! Fortunately this was rare, yet I remained on guard when I sensed that someone might be possibly unhinged.

### **Gratitude prevailed!**

Some folks don't even know what to say, and I know that feeling as I'd need time to digest what seemed impossible from a streetcorner. While some get loudly excited and talkative, even joining in on the social fun, calling others over, exclaiming "You have *got* to see this!!"

That was always fun. Some would return later bringing family or friends. I'd encourage people to take their time viewing until others want to see.

### **Info**

I kept notes of a few details to offer, keeping it interesting. From the names of prominent craters on the moon with their approximate scale. [Albategnus, approximately 70

miles in diameter. Enough to fit the San Francisco Bay area.] to distances [it would take you nearly half a year to drive to the Moon at 65mph] to the names of Jupiter's visible moons [that's Ganymede to the left, with Europa then Callisto on the right. Io is behind Jupiter right now, emerging into view in around an hour. Come back to see!] and many more such factoids to accompany the view. The public vary in knowledge and reaction styles. Some are already Astronomy fans, often enthusiastic and sometimes jaded. It's funny when parents have their kids along, showing more surprised enthusiasm than the kids. Most kids need more time to settle their eye into the lens appropriately without grabbing the telescope. It's a constant reminder: "*don't* touch the telescope, it moves it off target." To sometimes deaf ears, then I need to re-find the sight. I became good at this.

### **Jokes and controversy**

Humor is common out there, even if I suffer through repeated cliché jokes. The common comments are in the manner of : "I can see the flag!" or " I see the Martians!" ok, you have better eyes than me.

To, "the Moon is made of cheese!" to which I might say It would have to be vegan cheese, since there are no Cows there. It's okay to play along with my own stupid jokes. Humor seems to be a human social bonding mechanism.

Then there are the dogmatic conspiracy theorists who I try to brush off as briskly as possible — peacefully, even if I want to throttle them. Theological arguments about "the

good Lord made that 5000 years ago..." to "aliens abducted our brains to make us believe this is real, but I know better!"

"*sure* you do. Well since we are not interested in proving those things out here, we leave it out and focus on what we see."

End of discussion. You can't argue with faith based believers. If I'm lucky, someone else will come along and that new exchange takes over so the annoyer leaves.

Overall, things went well, and I made friends doing SA in Fairfax! Andrea who I teamed up with for future Astronomy events. Scott, who invited me to join guitar and singing parties, and Joey and Jim who I knew from around town. I became the familiar sidewalk Astronomer about town. Just something I was available for.

### **Yosemite, Fremont Peak, and Lassen!**

Yosemite was again a spectacular place for the telescope, with the Great mileage improved in the Prius, used by my 'scope modifications made to fit, now made trips easy to my new favorite Astronomy friendly parks — Fremont Peak and Lassen Park!

*Lassen* is underrated, or rather under visited by the general public. It has a great reputation as a night sky viewing site, up north east of Redding at around a four hour drive.

Volcanic features and great trails make it a wonderful day, then night is fabulous from the parking lot. Nicely lacking much traffic, making excellent uninterrupted Astronomy! A

new destination to return to; near perfect darkness with some southern glow from Chico. Thumbs up — and telescope bowser!

### **Fremont Peak Astronomy event with the SFAA, and other Astronomy groups.**

Our group is organized by the inimitable Ken Frank! Such a socially oriented organizer, and a good friend. Fremont Peak is south of San Juan Bautista near the coast, and like Mt Tam, is often above the fog. It's distinguished attraction is its permanent 30" mirror telescope that is housed at the top! Plus the area is specifically designed for Astronomy events, complete with assigned telescope setup platforms. Love it! Ken made sure we have primo spots near the 30" — good for hopping to it from my 'scope and back on occasion !

Those places — plus my regular Lake Sonoma and Mt Tam sojourns — provided some of the highest quality dark skies of northern California! So very fortunate to have this, and to have taken advantage of going as often as I did, and continued to! [more about this in the upcoming chapter *Have Telescope, Will Travel, Part Two*]

### **2006 and 2007 Plateaus**

By mid 2007, I think I had found every deep sky object possible through a telescope my size. I've almost got through one Messier marathon — in the spring when all of the M's are visible over the span of night. Ken dons a white wig as Charles Messier, as our master of ceremonies, and

handing out pastries. Good fun on Mt Tam! Weather always cut the marathons short for me. I've still seen them all in varying conditions and places. The view quality always differing between nights, keeping it compelling for years ahead!

Astronomical heights were reached during those years, as I've described in this chapter. The years I expanded everything Astronomy related... The SFAA, Sidewalk Astronomy, optimal dark sky viewing locations — prompted by having invested so much into the large homemade telescope under John Dobson's guidance. And I didn't even cover my relevant artwork of those years, nor Dobson's cosmology classes yet! [both soon.]

~ Dean Gustafson, April 2021