

# The Flint River Observer

## Newsletter of the Flint River Astronomy Club

September 2006

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Please notify **Steve Knight** if you have a change of address, telephone number and or new e-mail address.

**New Member:** Please welcome our newest member, **David Knighton**, 687 Beulah Evans Rd., Greenville, Ga. 30222. Phone 706-538-1865. [wknighto at aol.com](mailto:wknighto@aol.com)

**President's Message:** It's been 6 months since you guys elected me president, so my tenure is half over. I said at the outset that it was important for me to get opinions from the members about the direction of the club, what we're doing right, what we're doing wrong, and any new ideas you have. If I hear no opinions, I'm left to assume everybody's happy with the status quo. If you've offered an opinion and it appears I've failed to act on it, remind me of it. Maybe I've just forgotten. At the meetings, it's hard to talk and take notes at the same time. With no suggestions I sometimes come up with ideas of my own. Look out! Some work and some don't. Several things I've tried:

1. I've gotten some folks to eating at Maria's Mexican restaurant after the meeting and those that attend seem to enjoy it. It gives us a chance to socialize and shoot the bull in a relaxed atmosphere. If you aren't hungry, come for a drink or dessert.
2. I've delayed posting the newsletter 'til less than a week before the meeting so that the news will be up to date. Haven't heard any complaints about it.
3. I've just instituted an award for the member who attends the most regular club meetings and also one for the member who attends the most regularly scheduled Club observings.
4. I got together a trip to Fernbank Science Center and planetarium and that had a mediocre turnout although those who came didn't seem to regret it.
5. The rafting/train trip fell through due to either lack of interest or scheduling conflicts.

So you win some, you lose some. We've had very good meeting turnout the last few months. Let's keep it up. Observing turnout at Cox Field always falls off in summer due to weather, vacations, etc., but we've had folks out there none-the-less. I hope to see more as we get into fall. Let me know what I can do to make the meetings or the club more interesting. As I say, "It's your club!"

**Club Calendar:** September 14, 7:30 PM, Club Meeting at UGA campus, Griffin.

**Cox Field Club Observings:** Fridays & Saturdays, September 15 & 16, and 22 & 23 at dusk.

**Calendar of Events:** Saturn located above the crescent Moon before dawn - September 22. Autumnal Equinox – September 23.

**August Meeting Minutes:** Attending the Aug. FRAC meeting were 12 members; **"Smitty" Smith, Bill Warren, Felix Luciano, Bill Snyder, Charles, Erica & Jeffrey Anstey, Steve & Betty Bentley, Tom Danei**, plus **Curt & Irene Cole**. The major topic of discussion was the public observings. We're getting quite popular with the public for these observings. We now have 4 or 5 groups scheduled for the next 3 months. Felix presented a program about doing observing reports.

**September Meeting:** New business. Newest FRAC members **Tom & Britt Danei** have a background in TV and video productions and script writing. They've made a very generous offer to help produce a video for the club to promote itself. I've told **Tom** that the budget we discussed at the July meeting didn't leave any extra money for this year, in fact we already were going to drop below the desired reserve, but he said there would be hardly any cost to the club other than the video tapes and DVDs, and a few small incidental expenses.

I envision distributing DVDs mainly to local libraries (college and public), local cable and broadcast TV stations, maybe newspapers. If funds eventually allow we might give them to grade school libraries, visitor centers, Scout groups, etc. We might also post a short clip on our website if we have the web space.

The big thing **Tom** would require of us is a commitment to help in the field. E. g., hands to carry and set up lighting and other gear and a little on-camera work. This project will be strung out over a couple months or so. No go-ahead has been given yet so we need to discuss some things in order to decide whether or not to take on this project. Let me know how you feel about it.

The **program for the Sept. meeting** will be by **Felix** as he talks about and demonstrates the proper methods to clean eyepieces.

**Public Observings:** We continue to receive requests for public observings. The next scheduled observing is Friday, Sept. 22. A group of Cub Scouts and parents from the Peachtree City area are coming in to learn about the evening skies.

On Friday August 25 the club hosted Cub Scout Pack 79 at Cox Field. We had 9 Cub Scouts, 9 & 10 years old, plus siblings and parents—at least 20 people. **Curt** showed 'em his scope, how it works and how to focus, then they were shown the Moon, Jupiter, Vega and a few other objects. **Steve Knight** gave 'em a long lesson on sky objects including pointing out some constellations with his laser pointer. Other club members helped out as well. FRAC members in attendance were: **Charles A., John W., Felix L., Smitty S., & Bill W.**

On Saturday August 26, the club hosted a group of home educators and their kids, mostly under 10 years old, about 15 people total. They had two or three scopes of their own and I believe we'll pick one person up as a member. Went through much the same routine as Friday night. **Smitty, Curt, John, Charles and Felix** teamed up to do a presentation. Members present were the same as Friday except for absence of **Steve** and addition of **Tom D.** Most members stayed well past midnight both nights, some 'till past 3:00. As **Felix** said, "After such a wet and cloudy summer it sure felt good to be out observing under Cox field's "pristine" skies. "

#### **Fernbank Science Center trip, Friday, 11 August:**

"**Smitty**" and his family and the **Coles** browsed around the exhibit halls, looking at the Apollo 6 capsule (the last unmanned Apollo flight), the stuffed critter exhibits, meteorites, and a beautiful, huge Hubble photo of M 82. The planetarium show was about the planets and constellations of summer. Afterward, we headed up to the observatory to peer through the 36" reflector. The scope was installed in 1967 and still has its original mirror coating. The secondary is 12" in diameter. They turned it into a go-to about 6 years ago. They are using *The Sky, version 6*, to control the scope. They also have at least a half dozen other scopes sitting around the observatory that they use for educational purposes. Fernbank is owned and operated by the DeKalb school system. Transient clouds kept us from getting long views of anything, but we did observe Jupiter, Vega and Albeireo.

#### **A Recommended Department Store Telescope - By Steven "Smitty" Smith**

The Department Store Telescope, or what I will call the DST, has soured the high expectations of visual astronomy for many a beginning stargazer. We all recommend to folks that they should not buy DSTs and when the time comes for their first telescope purchase we direct them to spend their money, and usually more of it, on better telescopes that are available. Truth be known, I have in my possession a small collection of DSTs. Some I picked up at flea market prices of 5 dollars thinking that I may be able to use a part or lens from it, and others were given to me by folks who now want no part of astronomy because they couldn't see anything through their scopes (prime examples of my first sentence).

Enter the Meade/Radio Shack 60mm tabletop scope, retail price \$39.97. About a year ago FRAC member Larry Higgins told me he picked up a neat little scope from, of all places, Radio Shack. A few months ago in an online astro discussion group this scope was exposed to me again, and the next day while driving past my local

Radio Shack I decided to stop in and purchase one. Be advised that Radio Shack carries some other small scopes too. Meade Compact Refracting Telescope. Model 60AZ-T. 60mm (2.4") FL350mm f/5.8 is what the box label states. You can go to: <http://www.radioshack.com> and enter: 63-1222 (Radio Shack's catalog #) in the search bar and this scope will come up. It includes: Table top tripod, soft carry case/bag, 45 degree prism diagonal, 2x Barlow, 17.5mm (20x) and 9mm (40x) Kellner eyepieces.

Unlike a DST's wobbly tripod the table top tripod is very sturdy, the table or whatever you set it up on will be the weak point. The scope has a standard 1/4-20 threaded mount enabling you to mount the scope to full size tripods. The soft carry case appears well made and should last a long time. The 60mm objective lens has a huge oversize dew shield that also helps keep out stray light. The objective appears to be glass not plastic, and it is coated though it's probably only a single layer. Looking into the internals of the tube I see one light baffle in the mid-section of the tube. The scope only accepts 1-1/4" diagonals and eyepieces but unlike most DSTs, there is no wobbly focuser here!

While the Kellner eyepieces and prism diagonal would suffice for daytime nature study, the view is quite darkened when going to high power. For astronomical purposes I purchased a used 90-degree mirror diagonal for \$20. I usually mount the scope on the full size tripod I built for my Coronado PST solar scope and use better quality eyepieces that I already have.

Alas, as everyone very well knows this summer's skies have been very hazy so I haven't been able to observe much with this little scope but I can give you a few details observing Jupiter and our Moon. A 32mm Plossl eyepiece in this scope will give 11x and a field of view of 4-1/2 degrees! That just about makes this scope its own finder but, a small BB-gun red dot finder would make it much easier to aim when you point it higher in altitude. With this wide field of view I'm anxious to see if a nebula filter will bring out the Helix and the large Veil nebula in this scope. With 32 and 20mm Plossls and a 2x Barlow, Jupiter and its 4 largest moons could be seen but no atmosphere bands. I did not try any color filters. I had expected much false color and color fringes on bright planets and the Moon but detected very little at these magnifications (35x). I pumped the power up to 87x with a 4mm eyepiece but the image started getting mushy, so this scope is not going to follow the general rule of 50 to 60x per inch of aperture.

No, this scope is not TeleVue, Astro Physics, or even Williams Optics quality. It's also not your average Department Store Telescope with shaky tripod and wobbly focuser. What it is, is a neat little portable wide field scope that, even with some additional items added, won't break your bank account and will let you set up in a flash to show the neighbors the brighter objects in the night sky. They're going to love the Coathanger Cluster!

## Member Profile: Matt McEwen

Matt McEwen is one of the younger members of FRAC at 27. A native Georgian, he has a Bachelor of Arts in Early Childhood Education, yet chose to leave the teaching profession to pursue other interests. (Note from Curt. *I saw Matt work with Cub Scouts at a public observing a couple of months ago. He handled the kids very professionally and it was obvious he cared about them. His change of careers is a loss for the school system and the students, but, judging from the beautiful wooden scope he built, the cabinet business is gaining from Matt's career change.*) He has recently become part owner of a small custom cabinetry shop in Griffin. Matt has a wife named Suzanne, a young daughter, and a newborn son. Besides astronomy, his hobbies include woodworking, hiking/camping, and designing and building anything he can come up with an excuse for.

Matt considers himself a beginner in astronomy but already seems knowledgeable about the skies and recently demonstrated his carpentry skills by building a beautiful 8" open tube reflector. He used exotic woods to trim it and it really stands out in a crowd. Matt's first scope was an el cheapo Jason refractor he received at 9 years of age. He is casually working on Messier and Double star pins.

**NASA News:** From NASA Spitzer Space Telescope

### [NASA's Spitzer Digs Up Troves of Possible Solar Systems in Orion](#)

Astronomers have long scrutinized the vast and layered clouds of the Orion nebula, an industrious star-making factory visible to the naked eye in the sword of the famous hunter constellation. Yet, Orion is still full of secrets.

A new image from NASA's Spitzer Space Telescope probes deep into the clouds of dust that permeate the nebula and its surrounding regions. The striking false-color picture shows pinkish swirls of dust speckled with stars, some of which are orbited by disks of planet-forming dust.

Spitzer, with its powerful infrared vision, was able to unearth nearly 2,300 such planet-forming disks in the Orion cloud complex, a collection of turbulent star-forming clouds that includes the well-known Orion nebula.

The disks -- made of gas and dust that whirl around young suns -- are too small and distant to be seen by visible-light telescopes; however, the infrared glow of their warm dust is easily spotted by Spitzer's infrared detectors. Each disk has the potential to form planets and its own solar system.

"This is the most complete census of young stars with disks in the Orion cloud complex," said Dr. Thomas Megeath of the University of Toledo, Ohio, who led the research. "Basically, we have a census of potential solar systems, and we want to know how many are born in the cities, how many in small towns, and how many out in the countryside."

A look at Orion's demographics reveals that the potential solar systems populate a variety of environments. Megeath and his colleagues found that about 60 percent of the disk-sporting stars in the Orion cloud complex inhabit its bustling "cities," or clusters, containing hundreds of young stars. About 15 percent reside in small outer communities, and a surprising 25 percent prefer to go it alone, living in isolation.

Prior to the Spitzer observations, scientists thought that up to 90 percent of young stars, both with and without disks, dwelled in cities like those of Orion.

"The Orion image shows that many stars also appear to form in isolation or in groups of just a few stars," said team member Dr. John Stauffer of NASA's Spitzer Science Center at the California Institute of Technology in Pasadena. "These new data may help us to determine the type of environment in which our sun formed."

Astronomers do not know whether our middle-aged sun grew up in the stellar equivalent of the city or countryside, though most favor a large city scenario. Newborn stars like the ones in Orion tend to drift away from their siblings over time, so it is hard to trace an adult star's origins.

Megeath and his colleagues estimate that about 60 to 70 percent of the stars in the Orion cloud complex have disks. "It is an interesting question why this number isn't 100 percent. Eventually, we may be able to understand why some stars don't have disks," said Megeath.

Spitzer's infrared vision also dug up 200 stellar embryos in the Orion cloud complex, most of which had never been seen before. Stellar embryos are still too young to have developed disks.

The Orion cloud complex is about 1,450 light-years from Earth and spans about 240 light-years of space. Spitzer's wide field of view allowed it to survey most of the complex, an area of the sky equivalent to 28 full moons. The featured image shows a slice of this survey, the equivalent of four full moons-worth of sky, and includes the Orion nebula itself.

NASA's Jet Propulsion Laboratory, Pasadena, Calif., manages the Spitzer Space Telescope mission for NASA's Science Mission Directorate, Washington. Science operations are conducted at the Spitzer Science Center. Caltech manages JPL for NASA. Spitzer's infrared array camera, which made the observations, was built by NASA's Goddard Space Flight Center, Greenbelt, Md. The instrument's principal investigator is Dr. Giovanni Fazio of the Harvard-Smithsonian Center for Astrophysics.



## Deadly Planets

By Patrick L. Barry and Dr. Tony Phillips

About 900 light years from here, there's a rocky planet not much bigger than Earth. It goes around its star once every hundred days, a trifle fast, but not too different from a standard Earth-year. At least two and possibly three other planets circle the same star, forming a complete solar system.

Interested? Don't be. Going there would be the last thing you ever do.

The star is a pulsar, PSR 1257+12, the seething-hot core of a supernova that exploded millions of years ago. Its planets are bathed not in gentle, life-giving sunshine but instead a blistering torrent of X-rays and high-energy particles.

"It would be like trying to live next to Chernobyl," says Charles Beichman, a scientist at JPL and director of the Michelson Science Center at Caltech.

Our own sun emits small amounts of pulsar-like X-rays and high energy particles, but the amount of such radiation coming from a pulsar is "orders of magnitude more," he says. Even for a planet orbiting as far out as the Earth, this radiation could blow away the planet's atmosphere, and even vaporize sand right off the planet's surface.

Astronomer Alex Wolszczan discovered planets around PSR 1257+12 in the 1990s using Puerto Rico's giant Arecibo radio telescope. At first, no one believed worlds could form around pulsars—it was too bizarre. Supernovas were supposed to destroy planets, not create them. Where did these worlds come from?

NASA's Spitzer Space Telescope may have found the solution. Last year, a group of astronomers led by Deepto Chakrabarty of MIT pointed the infrared telescope toward pulsar 4U 0142+61. Data revealed a disk of gas and dust surrounding the central star, probably wreckage from the supernova. It was just the sort of disk that could coalesce to form planets!

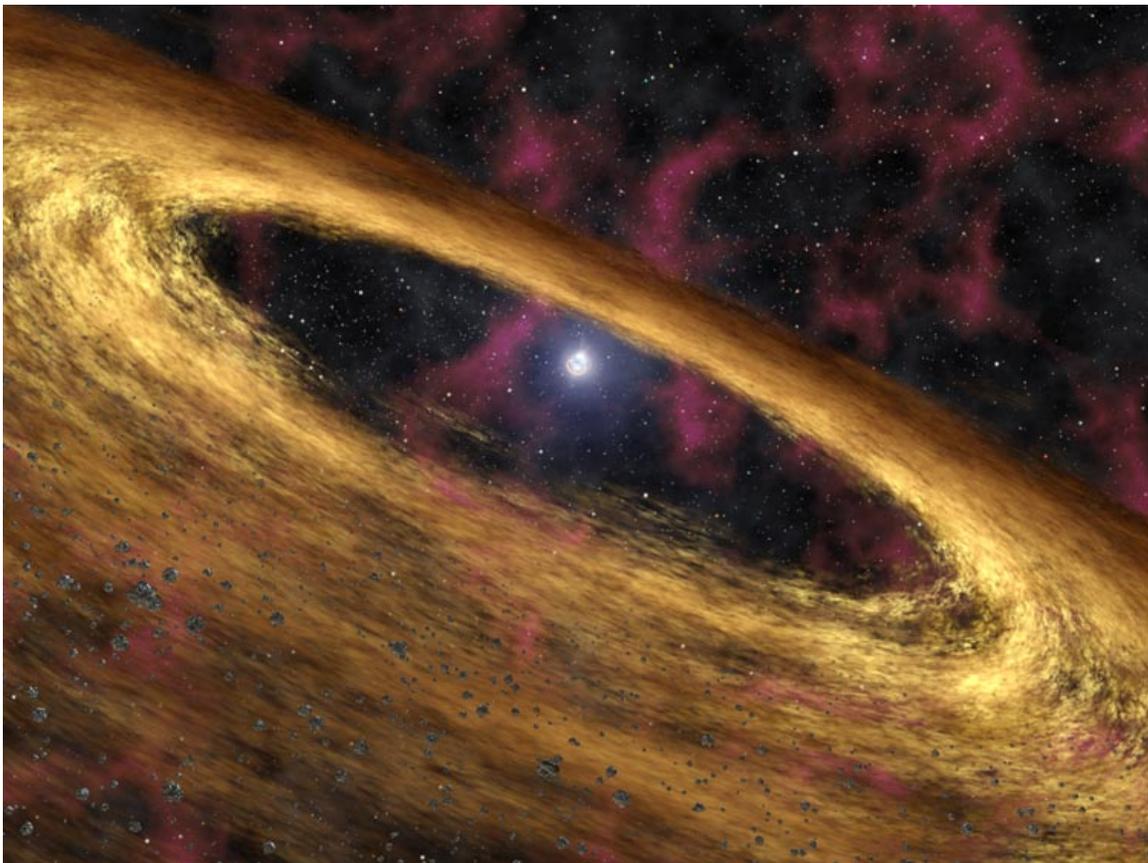
As deadly as pulsar planets are, they might also be hauntingly beautiful. The vaporized matter rising from the planets' surfaces could be ionized by the incoming radiation, creating colorful auroras across the sky. And though the pulsar would only appear as a tiny dot in the sky (the pulsar itself is only 20-40 km across), it

would be enshrouded in a hazy glow of light emitted by radiation particles as they curve in the pulsar's strong magnetic field.

Wasted beauty? Maybe. Beichman points out the positive: "It's an awful place to try and form planets, but if you can do it there, you can do it anywhere."

More news and images from Spitzer can be found at <http://www.spitzer.caltech.edu/> . In addition, The Space Place Web site features a cartoon talk show episode starring Michelle Thaller, a scientist on Spitzer. Go to <http://spaceplace.nasa.gov/en/kids/live/> for a great place to introduce kids to infrared and the joys of astronomy.

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



Caption:

*Artist's concept of a pulsar and surrounding disk of rubble called a "fallback" disk, out of which new planets could form.*

Note to editors:

*This image may be downloaded from:*

[http://spaceplace.nasa.gov/news\\_images/pulsar\\_system\\_art.jpg](http://spaceplace.nasa.gov/news_images/pulsar_system_art.jpg) .

# September

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
					<b>1</b>	<b>2</b>
<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b> Full Moon	<b>8</b>	<b>9</b>
<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b> Club Meeting, Last Qtr Moon	<b>15</b> Cox Field Observing	<b>16</b> Cox Field Observing
<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b> Cox Field Observing, Cub Scouts Public Observing New Moon	<b>23</b> Cox Field Observing, Autumnal Equinox
<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b> First Qtr Moon

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