

THE UNIVERSE
YOURS TO DISCOVER



INTERNATIONAL YEAR OF
ASTRONOMY
2009

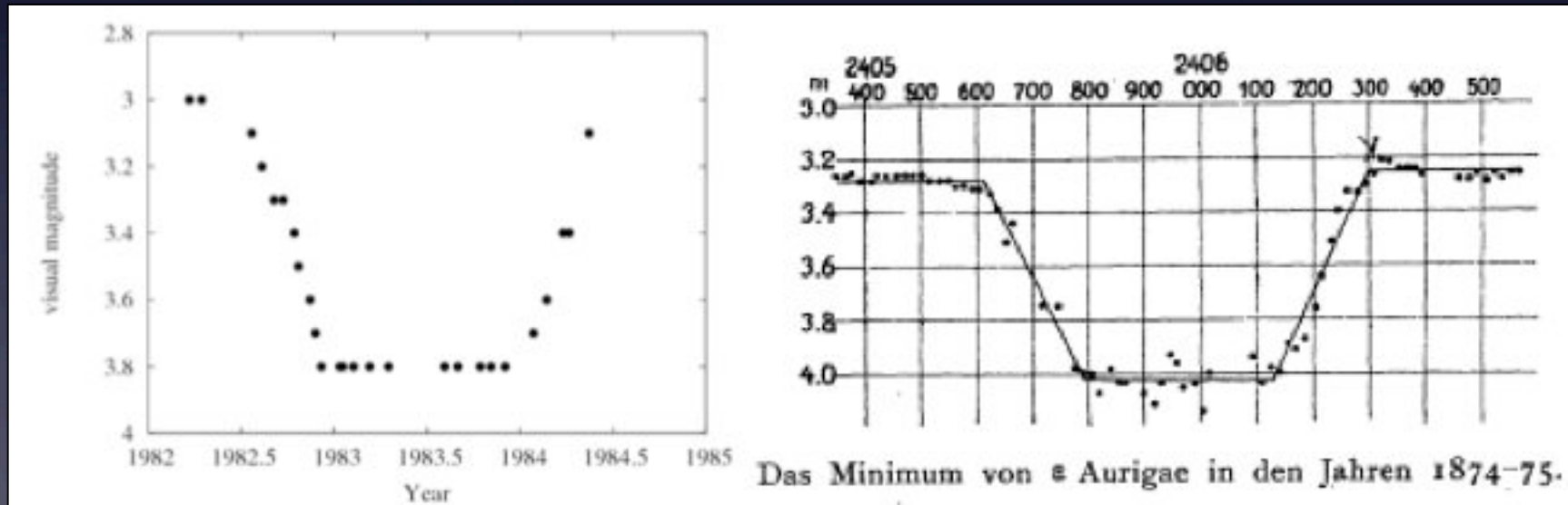
The AAVSO and IYA 2009

- Citizen Science Working Group
- Focus is Epsilon Aurigae's 2009-2010 eclipse
- **STARS:** Three year, 800K NSF grant submitted in June (still pending) & will be resubmitted in December
- *Real research with real data*
 - Collect and share data
 - Hypothesize
 - Analyze
 - Publish
- Collaborate in teams with professional mentors
- Web site based on GalaxyZoo experience
- Software tools, visualizations
- Two workshops: Data collection/prelim analysis & Advanced analysis/publication
- Special issue of the JAAVSO/omnibus paper by Dr. Robert Stencel
- Zero funding program: amateurs only
- For 20K we can do one workshop at the Adler



Epsilon Aurigae

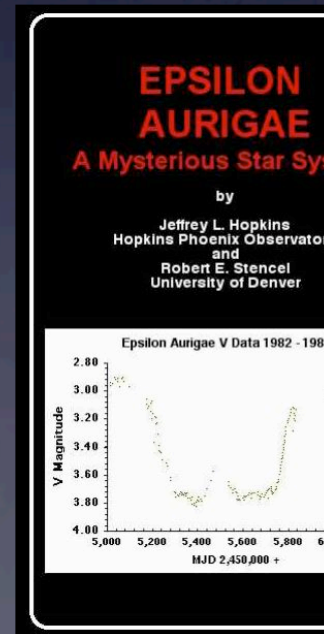
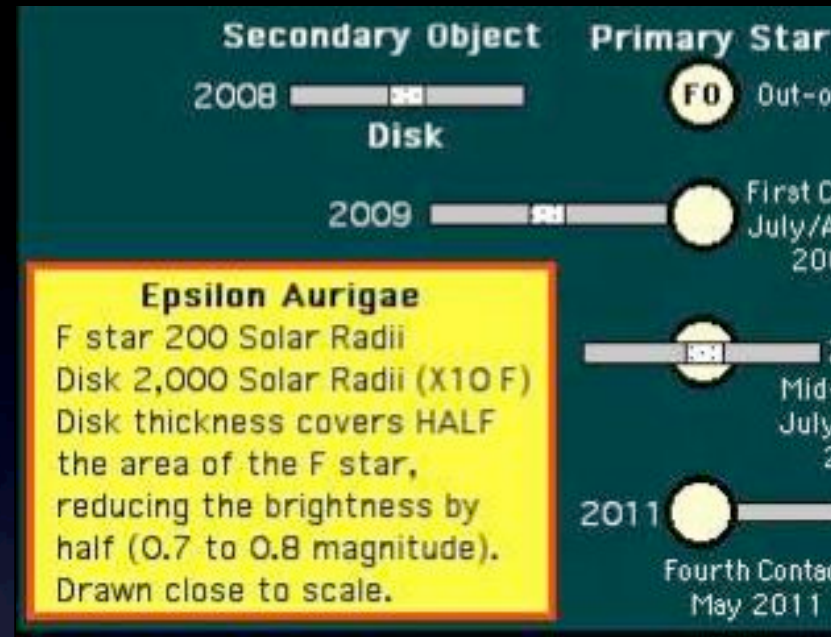
- Bright enough ($V \approx 3$) for naked eye city observations
- Fall, winter and spring skies
- 1.5 year eclipse every 27 years followed since 1871
- Amplitude $\approx .5$ magnitudes and
- Eclipse is asymmetrical with steep decline, long minima and even steeper ascent (~ 2 weeks!)
- Aug 6, 2009 - May 15, 2011



1982 - 1984 (left - AAVSO data from G. Samolyk) and 1871 - 1872 (right - Ludendorff [19

Epsilon Aurigae Questions

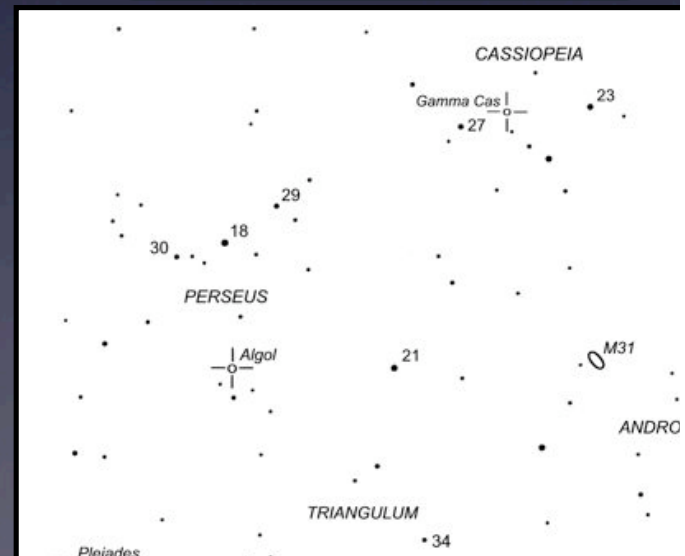
- No signs of the eclipse in the spectra!
- Pulsating F supergiant (Jeff Hopkins reports a 66d period)
- Secondary is a disk, perhaps with a hole
- Center of secondary may be a binary system
- Combined mass of secondary and its star system equal the F supergiant
- Is the F star a massive supergiant or an early post-asymptotic giant branch star?
- What is at the center of the eclipsing disk?
- Why is the eclipse shortening?
- Why the asymmetry?
- Dr. Stencel thinks a third object may be spiralling into the main star, leading to mid-century fireworks



Ten Star Training Program

- **Basic training** for complete novice observers
- Northern hemisphere naked eye stars
- Six printed charts and VSP
- Tutorial/manual - light version of the visual observing manual
- Will be tested in November/January with after school high school astronomy program (run by MIT) in urban areas of Boston
- Also for use in analysis training
- Great PEP targets

1. Alpha Ori
2. Beta Per
3. Beta Lyr
4. Delta Cep
5. Eta Aql
6. EU Delphinus
7. Mu Cep
8. Omi Cet
9. Gamma Cas
10. Eps Aur



Sample paper chart: Gamma Cas

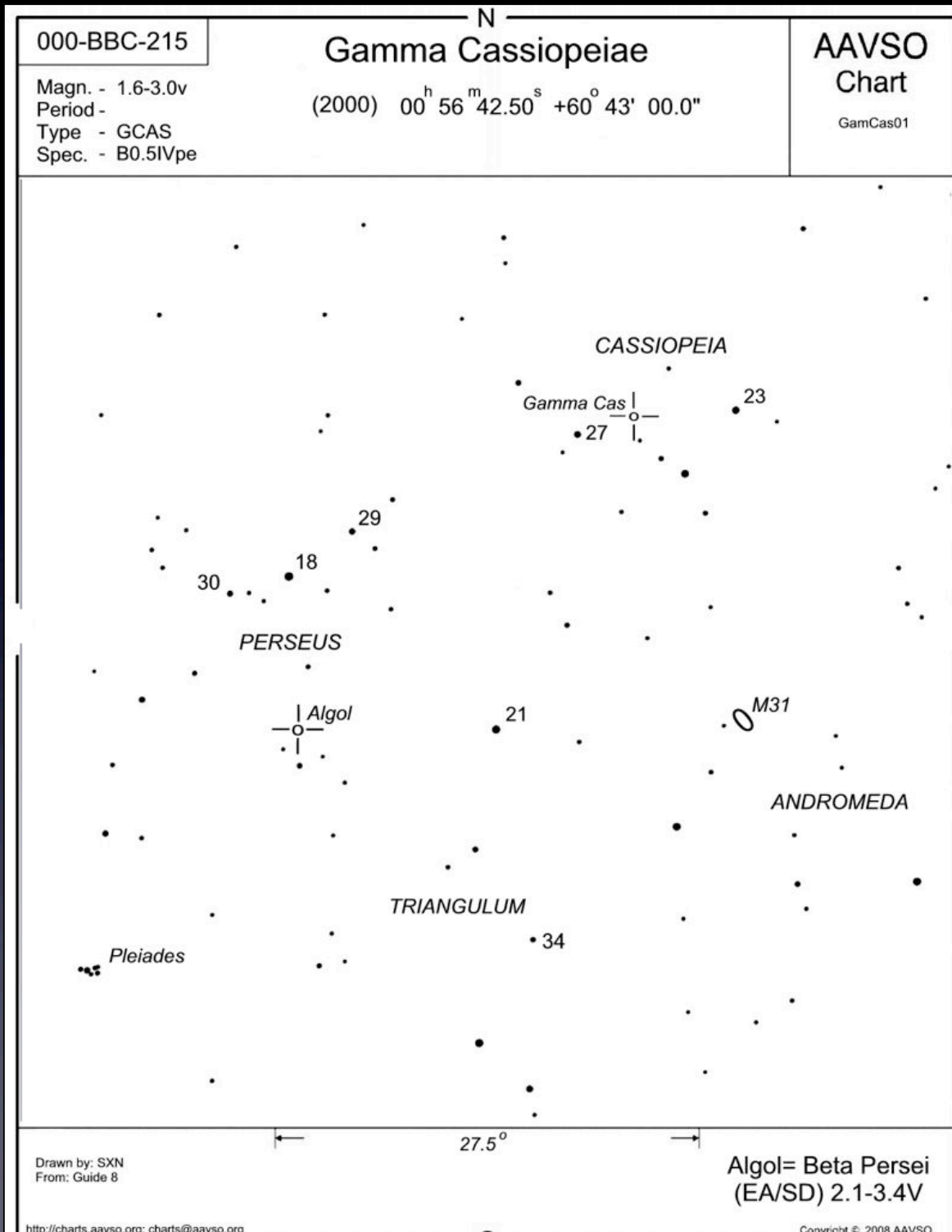
Thanks to the
following sequence
team members
who are creating
the sequences,
charts and
checking them!

Mike Simonsen

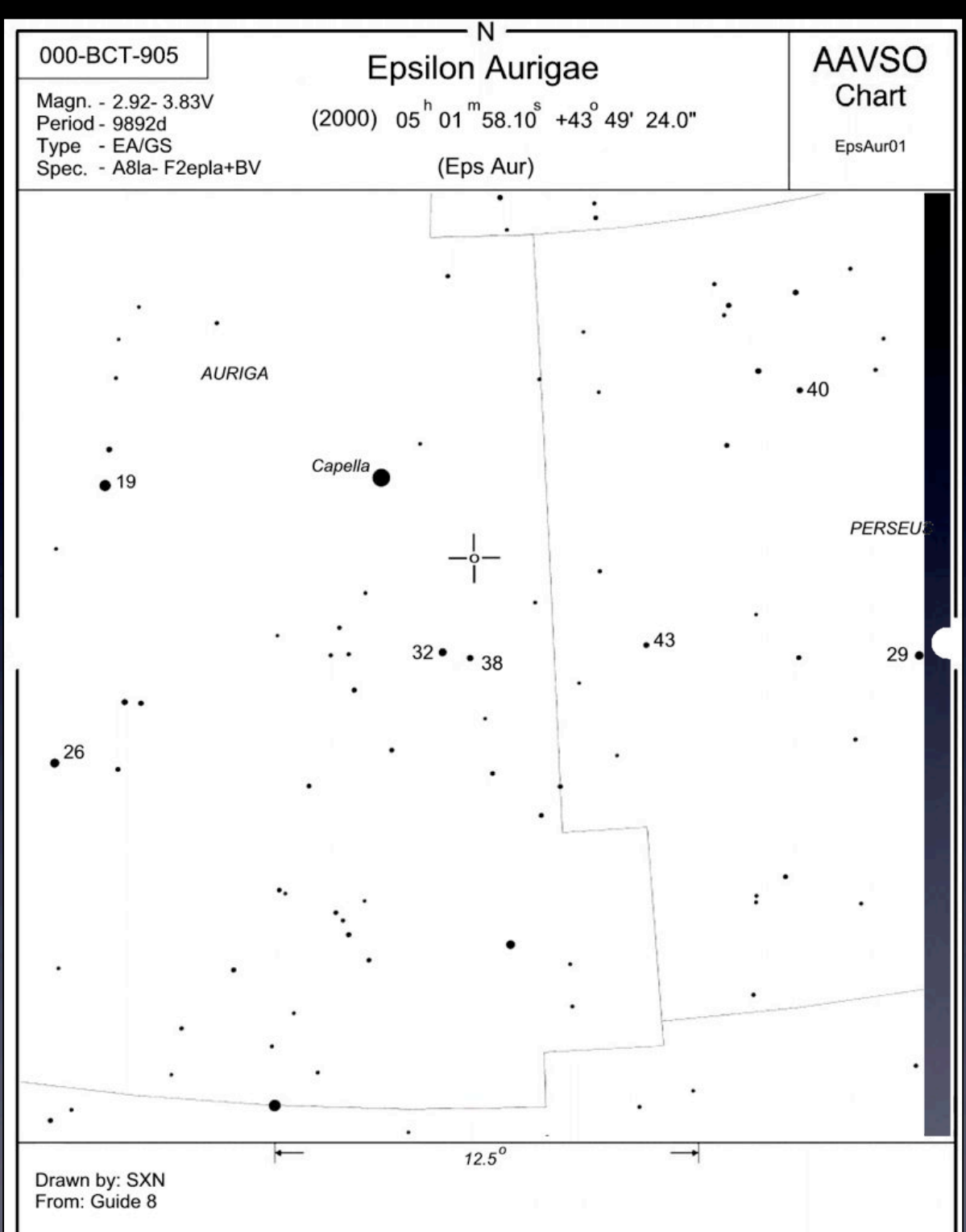
Tim Crawford

Dan Taylor

Tom Bretl



Sample paper
chart:
Epsilon Aurigae!



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365

DAYS OF
ASTRONOMY
DAILY PODCAST OF THE IYA

What is 365 Days of Astronomy?

The 365 Days of Astronomy Podcast is a project that will publish one podcast per day, for all 365 days of 2009. The podcast episodes are written, recorded and produced by people around the world.

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About

What is the 365 Days of Astronomy podcast?

The 365 Days of Astronomy Podcast is a project that will publish one podcast per day, 5 to 10 minutes in duration, for all 365 days of 2009. The podcast will be made available through an RSS feed. The podcast episodes will be written, recorded and produced by people around the world. Each day will have a specific topic or theme based on *The 365 Days of Astronomy Calendar*, a daily calendar of astronomical events, themes and ideas created by the IYA.

Although all the episodes will have a common intro and outro that ties into the overall theme, each episode will be completely different.

Do you want to contribute to the 365 Days of Astronomy podcast?

We are looking for individuals, schools, companies and clubs to provide 5 - 10 minutes of audio for our daily podcast. You can do as few as 1 episode or up to 12 episodes (one per month, subject, of course, to our editorial discretion). Our goal is to encourage people to sign up for a particular day (or days) of 2009.

We have a calendar of astronomical events to give ideas but the podcasts can be about virtually any astronomical topic. We are seeking a wide range of contributions, from simple concepts or how-tos to more in-depth discussions of complex concepts. We will do post-production on all submissions, so knowledge of audio editing may not be necessary.