

## Astronomy C: How to make a resource

### Useful Components (for Binder or Laptop):

#### 1. Formula Sheet

- Useful for Physics and Mathematics questions on Astronomy Exam
- Should be easily removable from the Binder
- Should have as many useful formulae as possible. For useful formulae, see past national exams and the coaches' manual, both found on the Astronomy CD that can be purchased on the Science Olympiad store webpage.
- See section B of the rules for possible types of astrophysics problems.
- Formulae should be organized in an easily accessible manner to save time on exam

#### 2. Deep Sky Objects Section

- Should include a section about each DSO-**Sample DSO section on next page**
- Each Section should include as much information as possible about the DSO, including what type of object it is and what processes are occurring in the object
- Sections should include data about the DSO (distance, magnitude, RA/Dec, etc.)
- Sections should include multiwavelength images, light curves and spectra (if possible) for the DSO
- Sections should be tabbed for each DSO to make it easier to find in the binder
- Sections should have information organized neatly to save time on exam

#### 3. Topic-Specific Section

- The main topics for the year are outlined in section A of the rules
- Accumulate information from online resources and textbooks-for an online textbook, see <http://casswww.ucsd.edu/public/astroed.html#TUTORIAL> and [www.astronomynotes.com](http://www.astronomynotes.com), other great websites are listed below.
- Take notes on this information and put it into the binder, and tab each topic
- Can also simply print out pages for reference as well

#### 4. General Astronomy Section

- Should include assortments of possibly necessary things such as stellar spectra, spectroscopic parallax tables, sample H-R Diagrams, information on the E-M Spectrum, and possibly a large reference material such as a glossary from a textbook
- Generally, whatever you think could be asked that isn't specifically mentioned on the rules should go in here.
- Can also include an Astrophysics section with sample problems and/or past tests in case something similar comes up on an exam and the reference to a past problem would be helpful

There are many more items that could be put into a Astronomy resource, but these are the core elements that are very helpful to have—this guide doesn't have to be followed strictly, it is simply showing one manner of organizing information that can be put together in many different ways!

## AH Leo

Type: RR Lyrae Variable, RRab type (fundamental mode pulsator)

Other catalogue names: GSC 01978-00740, NSVS 7556759, AN 65.1934, 2MASS J11050530+2321089

Absolute Magnitude: +0.75

Period: 0.4662609 days

Blazhko Cycle Period: 25 Days

Minimum magnitude: +14.35

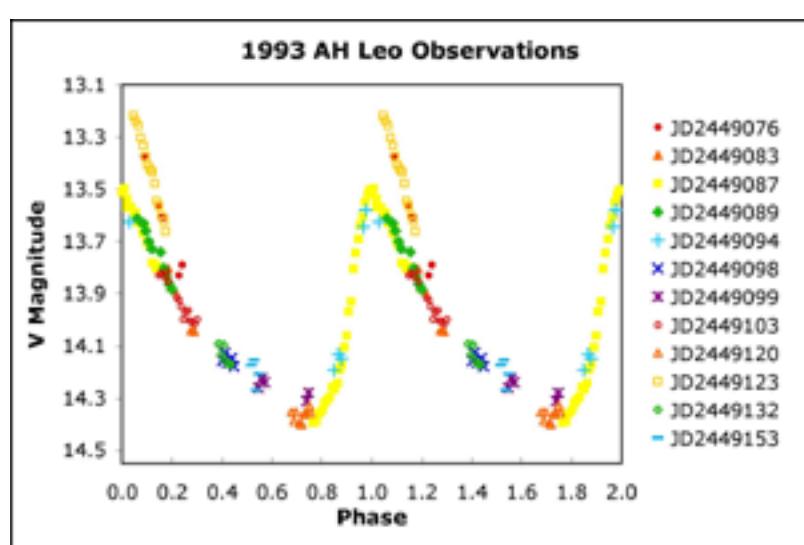
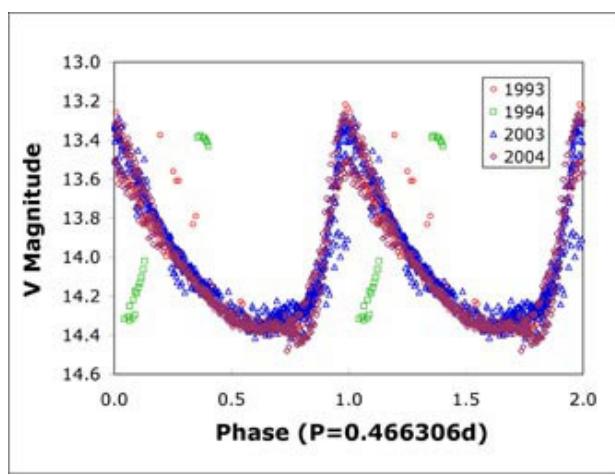
Maximum amplitude: 0.989 magnitudes

Minimum amplitude: 0.4 magnitudes

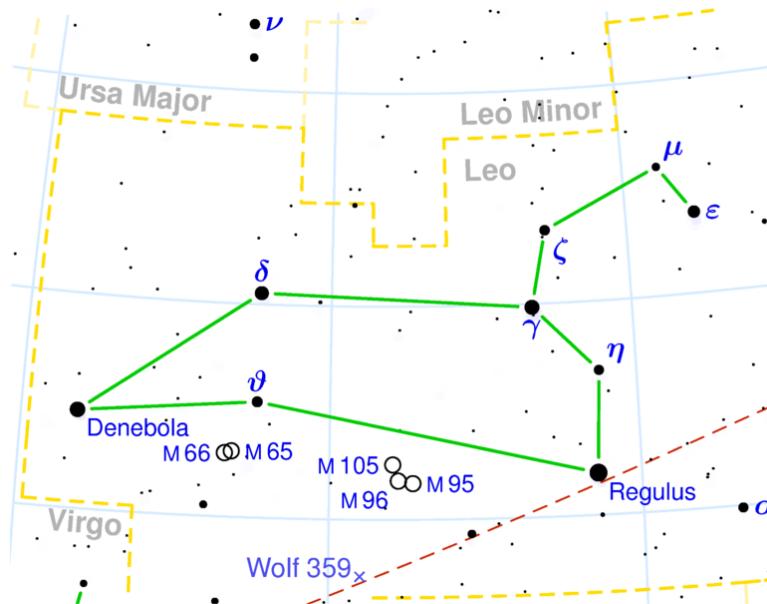
Constellation: Leo

RA/Dec: 11 05 05.30 +23 21 09.0

Light Curves:



Constellation:



### Binder or Laptop?

Organizing a laptop is very similar organizing a binder in that the laptop should include different word documents depending on the type of information contained in the document, but on a computer one can use the find function to search specific keywords faster than in a binder. Also, one can download webpages as a reference that can be searched through in case something is seen on a test that is not known by the students. With a binder, a student can flip to specific tabbed sections extremely quickly and also there is a much lower chance of the binder malfunctioning in competition.

The student should be able to decide whether they want to use a laptop or binder, depending on what their needs are and generally what they feel they would be most comfortable with creating. Making a good resource for Astronomy takes a long time, but it is quite worthwhile, as it will not only come in handy on exams but is also an excellent exercise in organization of knowledge and it is a great study tool to have when preparing for competition.

Websites:

American Association of Variable Star Observers:

<http://www.aavso.org>

AAVSO Variable Star Astronomy Manual:

<http://www.aavso.org/education/vsa/>

Chandra X-Ray Observatory:

<http://Chandra.harvard.edu/>

NASA:

<http://www.nasa.gov>

Science Olympiad Store:

<http://soinc.org/store>

Astronomy Picture of the Day:

<http://antwrp.nasa.gov/apod/>

NED Database:

<http://nedwww.ipac.caltech.edu/>

SIMBAD Database:

<http://simbad.u-strasbg.fr/simbad/>

Astronomy Notes:

<http://www.astronomynotes.com>

UCSD Online Tutorial:

<http://casswww.ucsd.edu/public/astroed.html#TUTORIAL>

SEDS Messier Database:

<http://seds.org/messier/>

Ds9 Download:

<http://hea-www.harvard.edu/RD/ds9/>

NASA Remote Sensing Tutorial, Section 20 (Astronomy and Cosmology)

<http://rst.gsfc.nasa.gov/Sect20/preface.html>

AAS Educator References:

<http://www.astrosociety.org/education/resources/eduksites.html>

For more links, see:

[http://soinc.org/astronomy\\_c](http://soinc.org/astronomy_c)

