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Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Star Charts**

with *Cartes du Ciel*

**Introduction**

We have begun our investigation of stars. In this lab, you will use the application called Cartes du Ciel to become familiar with some of the stars that we will study in detail this semester. You will also be asked to locate and identify some non-stellar objects.

If you have not already downloaded the application, you may find it at

<http://www.ap-i.net/skychart/en/start>

In this lab, I will shorthand the name Cartes du Ciel with CdC for brevity.

First, let's look at some stars that have ***proper names***. Remember, only the brightest stars which form our constellations have been given proper names. You will find a search window on the top menu bar of CdC.

|  |  |  |
| --- | --- | --- |
| Sirius | Betelgeuse | Vega |
| Alpha Centauri | Polaris | Rigel |
| Castor | Antares | Capella |

Here is a short list of some of the stellar properties you will find in the pop-up window for these stars.

**Distance**: in either light years or parsecs

**Magnitude**: both apparent and absolute

**Stellar Parallax:** in seconds (or maybe milliarcseconds (mas)) of arc per year

**Proper Motion:** also in milliarcseconds of arc per year **both in R.A. and dec**

**Radial Velocity:** in km per second

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Star Name | Distance (L.Y.) | Apparent Magnitude | Absolute Magnitude | Annual Parallax(mas) | Proper MotionR.A. & dec | Radial Velocity(km/sec) |
| Sirius |  |  |  |  |  |  |
| Betelgeuse |  |  |  |  |  |  |
| Vega |  |  |  |  |  |  |
| Alpha Centauri |  |  |  |  |  |  |
| Polaris |  |  |  |  |  |  |
| Rigel |  |  |  |  |  |  |
| Castor |  |  |  |  |  |  |
| Antares |  |  |  |  |  |  |
| Capella |  |  |  |  |  |  |

Now, you need some practice finding your way around the application. It's scavenger hunt time. The search window on the top menu bar will be very helpful.

* What is the absolute magnitude of the second brightest star in the constellation of Cancer? \_\_\_\_\_\_\_\_
* What is the common name (or proper name) of Alpha Geminorum? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* What time does Regulus rise tonight here in Bloomfield Hills? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Give the name of a constellation which is adjacent to Canis Minor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* How many stars in Delphinus are brighter than 4th magnitude? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (try the advanced search)
* Go to **position** 14h07m42s right ascension and -36°26' 58" declination. What is the common name of that star?

(hint: women can have babies) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* What type of object is the deep sky object called M106? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* In which constellation is the star that has the same name as Draco Malfoy's aunt?

( any Harry Potter fans in the class?) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_