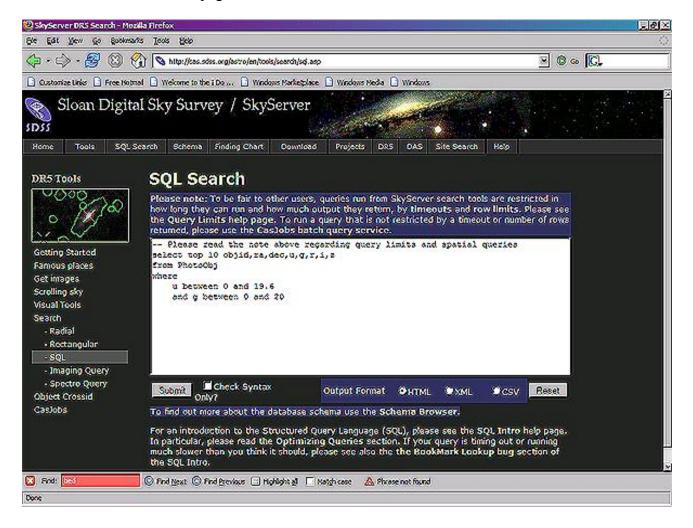
How Do I...

Find star spectra from the SDSS's SEGUE survey?

The SDSS's SEGUE (Sloan Extension for Galactic Understanding and Exploration) is an extension of the original SDSS designed to map the plane of the Milky Way. SEGUE measures spectra of stars. You can access information the SEGUE spectra by running an SQL query on SkyServer. You can access the spectra themselves by using the Image List and Explore tools.

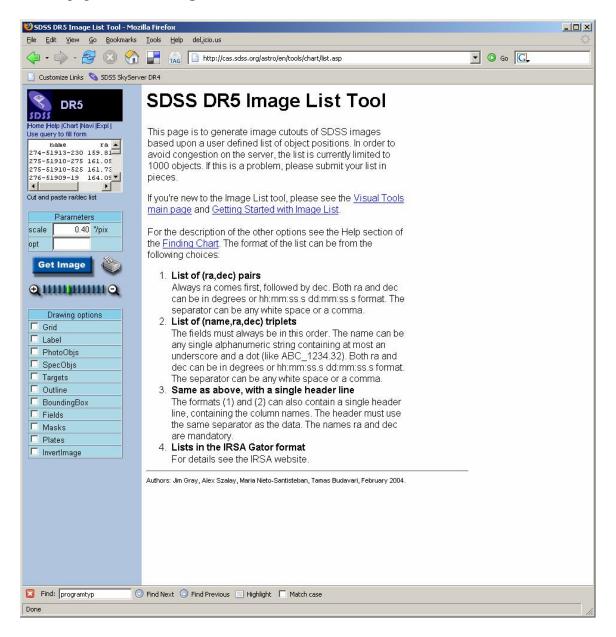
1. From the astronomers' main page, click on the SQL Search link – the second link in the first column. The page looks like this:



2. In the main window, type the following query:

The query returns the object ID, RA, and dec of each star with a SEGUE spectrum. It also returns the plate number on which the spectrum was observed, the MJD when it was observed, and the fiber that the spectrum was observed with. The last three pieces of information will help you to retrieve the spectrum FITS file.

3. To view the actual spectrum, use the Image List tool. From the astronomers' main page, click on **Image List**. You will see a screen like this:



4. Click on the small blue **Use query to fill form** link in the top left of the tool. Paste the following query into the textbox:

```
SELECT top 100 s.bestobjid as name, s.ra, s.dec -- select ID, ra, dec of star only

FROM plateX p, specObjAll s -- from plate and spectrum tables

WHERE p.plate = s.plate -- this is the same object

AND p.programtype > 0 -- not part of main survey

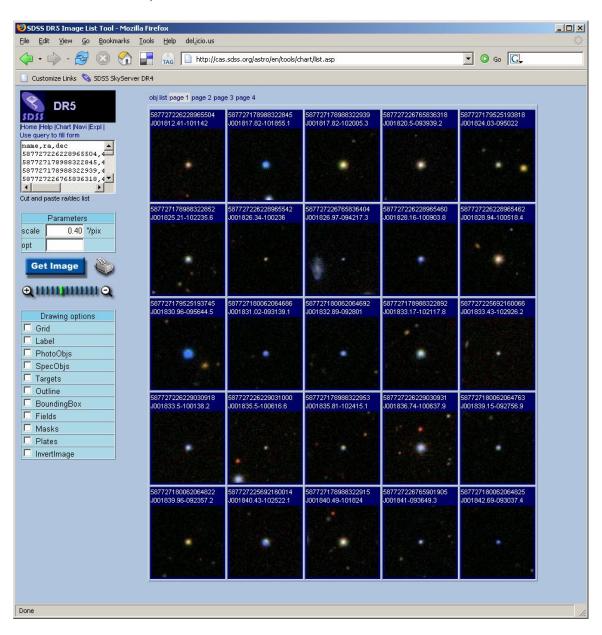
AND p.programname like '%segue%' -- part of SEGUE survey

AND s.bestObjID > 0 -- object also has photometric data

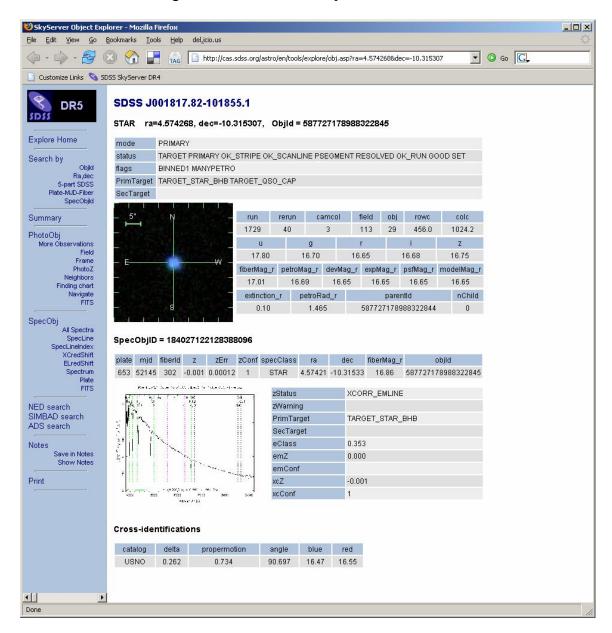
AND s.specClass = 1 -- object is a star
```

It is important to note that every query to the Image List tool must start with SELECT *name*, ra, dec (where name can be any parameter you want).

5. Click **Submit**, then **Send to List**. The results will look like this:



6. To see the spectrum, you will need to go to another tool called the **Explore** tool. Click on the SDSS object ID of a star whose spectrum you want to see – it is above the star's image. A new window will open:



- 7. Click on the spectrum to see a larger view of the spectrum. Spectral lines are marked in pink and green.
- 8. To see the line strengths of various lines in the star, click on the **SpecLineIndex** link in the left-hand frame, under *SpecObj*. The name of each line identified in that spectrum is listed under *name*. The minimum and maximum rest wavelengths of the line are listed under *waveMin* and *waveMax*. The line's equivalent width is listed under *ew*.