

I-TRAIN #8: ALminer - Q&A

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- **Does ALminer discern between Pass and SemiPass data when downloading?**
 - One of the keywords in the 'keysearch' function is 'qa2_passed' that can be set to 'T' for True or 'F' for False. The query results include both Pass and SemiPass data by default.
- **What is the long term commitment to supporting this package? Will there be future developments?**
 - The ALminer team aims to be able to continue developing this tool. The dedication that can go into this is still to be determined. It will also depend on the user community. It would be good to receive feedback from the community. Users could contribute to the github repository or give direct feedback. While this project has been designed to be as broad as possible for the community, it has been driven and tested for a particular science case (Galactic star formation). Therefore, it will be helpful if, for example, users could create and share Jupyter Notebooks with ALminer queries for their own science cases and ALminer developers will be happy to help and develop new features applicable for other specialized science cases if they don't already exist.
- **If I understand correctly, you can only search for CO lines at the moment. Would it be possible to easily add other molecules? Do you plan to work on that in the future?**
 - The 'line_coverage' function allows the user to search for any line as long as the line frequency is provided. Similarly, the 'plot_line_overview' function allows the user to visually see what subset of the observations they're interested in cover the frequency of a given line of interest. A powerful way of doing this is to use astroquery's splatalogue module to obtain the frequencies and then feed the frequencies to these functions in ALminer.
- **Would it be possible to plot line frequencies for a given molecule name, as for example labelled in the CDMS or JPL?**
 - Same as for the previous question. One could query splatalogue through astroquery and then loop over frequencies. Be aware though that catalogues of lines are very heterogeneous and for example, in the case of hyperfine transitions one can end up with very crowded plots with so many lines, etc.
- **When one requests downloading of fits files, will it also include additional products like for example ARI-L/Large Program data products?**
 - At the moment, astroquery (on which we rely for the data download) does not untar the 'external' folder where the ARI-L products exist. Therefore, currently the only way to download the ARI-L products is to set 'fitsonly=False' in the

'download_data' function so that you download the tar file that contains the ARI-L products. In the future, it should be possible to download individual FITS files for the ARI-L products by setting the options 'fitsonly=True' and 'filename_must_include=['ari_l']'.