# astrophysics data system

Exploring ADS Visualizations

The ADS interface allows users to visualize, for any query results, author networks and paper networks, which provide a hierarchical view of research groups and research topics, respectively.
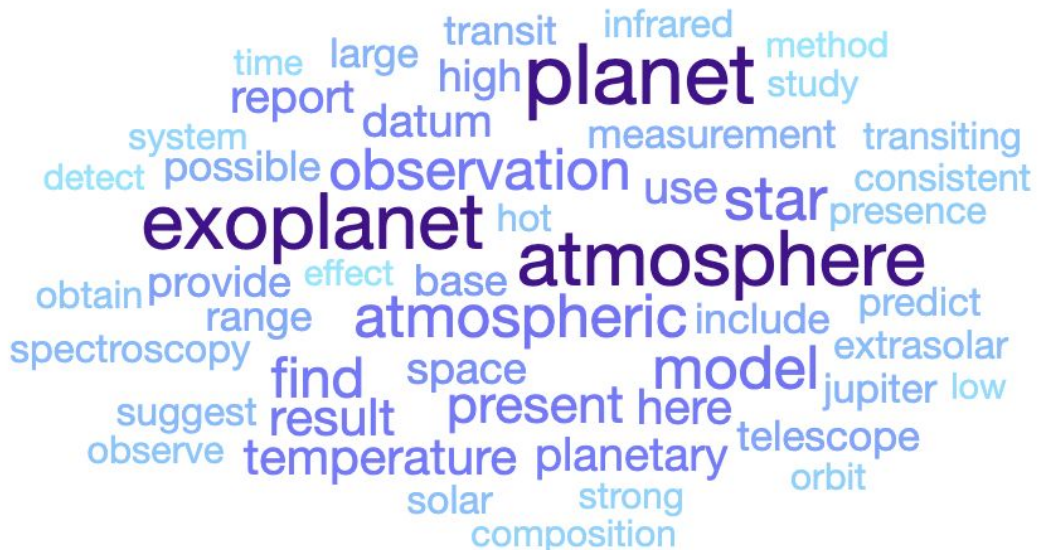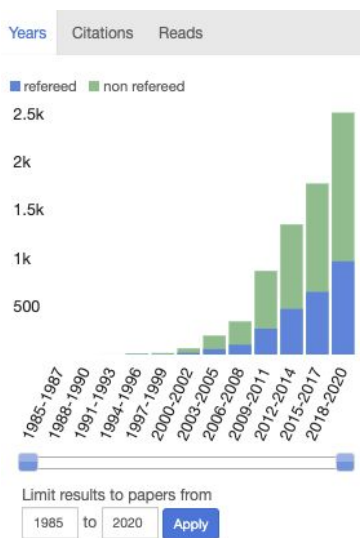
The **author network** (below, left) takes the top 200 most frequently appearing authors within your result set and displays color-coded clusters of authors representing collaborations based on co-authorship frequency analysis.

The **paper network** (below, right) clusters groups of papers that share a significant number of references, and assigns keywords to those groups by looking for shared, unique words in their titles.

Both visualizations include histograms showing the frequency of papers published in each of the detected groups over time, and allow the user to interactively explore the papers associated with each author, collaboration, or topic detected.
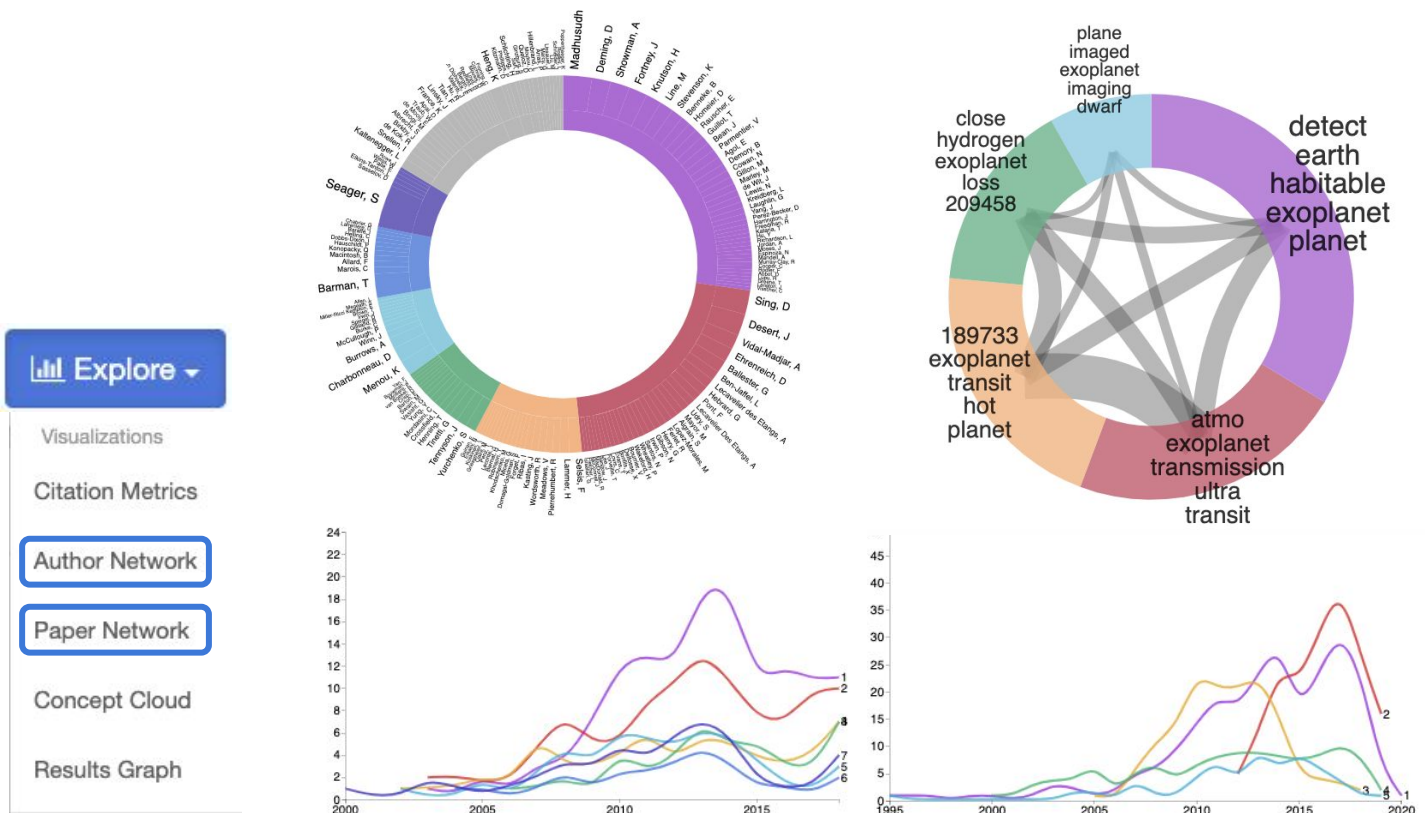
Basic statistics are provided about the distribution of publication dates, citations, and readership for any set of results (below, left). Additional analytics tools such as the concept cloud and results graph allow users to gain further insights.

The **concept cloud** (below, right) takes words from the titles and abstracts of the search results, counts their frequencies and compares them to the same word's frequency across the entire ADS corpus, allowing users to see either the most frequent or most unique concepts mentioned in the result set.

The **result graph** (bottom of page) is a scatter plot that allows users to view metrics for both the long-term influence (citation count) and recent popularity (90 day read count) for the top papers in a set of results.

All the visualizations discussed here are interactive, allowing users to explore particular aspects of the dataset (e.g. a particular author or collaboration group) and restrict the search results to the given selection.