Stewardship and Impact of a Thesaurus for the Astronomy Community

Stewardship Model

The stewardship model employed by the Unified Astronomy Thesaurus (UAT) demonstrates an approach to vocabulary development that information professionals can follow to build an **impactful and extensible subject-specific thesauri**.

- Led by a team of librarians and publishers
- Openly soliciting for community feedback on planned and new potential changes
- Public tracking of feedback, discussions, and resolutions
- Published online using open, machine readable formats and semantic web standards

Impact on the Astronomical Literature

The UAT was fully implemented as the source for keywords for American Astronomical Society (AAS) journals on June 3, 2019.

As of September 2020, nearly 4,600 articles using the UAT have been published by AAS. **Over 1,400 UAT concepts** have been assigned to these papers, of which the most frequently used are shown to the right. The tagging system used by AAS in the past contained about 600 keywords. Therefore **more than twice** as many UAT concepts have been used to describe papers in the last year than the total number of keywords previously available to authors.

Other journals have also adopted the UAT, including the Publications of the Astronomical Society of the Pacific, and the Publications of the Astronomical Society of Australia.

The **Astrophysics Data System**, astronomy's premier indexing service, is pursuing machine learning technology that will automatically index and assign UAT concepts to its large corpus of astronomical literature.

Beyond Literature

Scientists submitting proposals to **Hubble Space Telescope** and members of its review panels agree that UAT concepts enables a more accurate description of scientific objectives than their previous keyword systems.

The **International Virtual Observatory Association**'s Semantic Working Group has drafted an implementation of the UAT as a source for keywords that leverages it's built-in semantic web capabilities.

Nearly 1000 **WikiData** records have been matched with UAT identifiers, which Google uses as part of its Knowledge Graph, tying astronomical literature to the informational boxes presented in search results.

Katie Frey, Curator for the Unified Astronomy Thesaurus

Pursuing feedback and engaging scientists in discussion drives ongoing development of an open and community supported thesaurus.

Most Frequently Use UAT Concepts (9/22/20)

Concept	Count
Interstellar medium	277
Star formation	245
Galaxy evolution	225
Active galactic nuclei	216
Neutron stars	186
Exoplanets	180
Solar wind	180
Exoplanet atmospheres	149
Solar flares	145
Magnetohydrodynamics	140
Quasars	139
Protoplanetary disks	135
Solar magnetic fields	134
Space plasmas	133
Supermassive black holes	130
High energy astrophysics	129
Spectroscopy	123
Accretion	120
Gravitational waves	117
Astronomy data analysis	116

learn more about the impact of UAT and it's stewardship model

http://astrothesaurus.org/sla-2020/

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