Search or Article-id   (Help | Advance

All papers

Astrophysics > Instrumentation and Methods for Astrophysics

AKARI-CAS --- Online Service for AKARI All-Sky Catalogues

C. Yamauchi, S. Fujishima, N. Ikeda, K. Inada, M. Katano, H. Kataza, S. Makiuti, K. Matsuzaki, S. Takita, Y. Yamamoto, I. Yamamura

(Submitted on 27 Jul 2011)

The AKARI All-Sky Catalogues are an important infrared astronomical database for next-generation astronomy that take over the IRAS catalog. We have developed an online service, AKARI Catalogue Archive Server (AKARI-CAS), for astronomers. The service includes useful and attractive search tools and visual tools.

One of the new features of AKARI-CAS is cached SIMBAD/NED entries, which can match AKARI catalogs with other catalogs stored in SIMBAD or NED. To allow advanced queries to the databases, direct input of SQL is also supported. In those queries, fast dynamic cross-identification between registered catalogs is a remarkable feature. In addition, multiwavelength quick-look images are displayed in the visualization tools, which will increase the value of the service.

In the construction of our service, we considered a wide variety of astronomers' requirements. As a result of our discussion, we concluded that supporting users' SQL submissions is the best solution for the requirements. Therefore, we implemented an RDBMS layer so that it covered important facilities including the whole processing of tables. We found that PostgreSQL is the best open-source RDBMS products for such purpose, and we wrote codes for both simple and advanced searches into the SQL stored functions. To implement such stored functions for fast radial search and cross-identification with minimum cost, we applied a simple technique that is not based on dividing celestial sphere such as HTM or HEALPix. In contrast, the Web application layer became compact, and was written in simple procedural PHP codes. In total, our system realizes cost-effective maintenance and enhancements.

Submission history

From: Chisato Yamauchi [view email]

[v1] Wed, 27 Jul 2011 05:19:03 GMT (445kb)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.