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ISSA-PS, The Postage Stamp Server for IRAS Imaging Data

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Abstract. The ISSA Postage Stamp Server[1] is a Web-accessible service that delivers *IRAS* images to users with a minimum of effort. It is unique in that it will operate by object name as well as celestial position. Users can connect using custom clients to automatically make requests and fetch images for local use.

1. Concept

The basic idea of the ISSA Postage Stamp Server is to provide small subsets of the *IRAS* imaging data to users with minimal fuss and bother. Our philosophy is to deliver the data and not do any processing at all; in particular we do not perform any coordinate transformations, because then we will no longer be delivering the product itself but rather some untested derivative.

Targets are specified by name or by position using NCSA Mosaic, or an equivalent Web browser, on an introductory html page describing the service. The search is launched, and when completed the user is presented with four postage stamp representations of the extracted FITS data. A number of caveats are provided on the use of ISSA images, which can contain traps for the unwary. Users retrieve the FITS images by clicking on the postage stamps, provided their Web clients are properly configured (we give instructions on how to do this).

2. Implementation

The service is managed by the AstroVR server (see the paper in this volume by Van Buren, Curtis, Nichols & Brundage). Web clients dial into AstroVR, where a general purpose Web Server handles the request by dispatching it to the postage stamp generating object. There, the target string is taken and recast into the query grammar of the low-level postage stamp server running at IPAC, which requires a valid position. If an error results, a query to SIMBAD is made

[1] http://astrovr.ipac.caltech.edu:8888/ISSA-PS

using the target string as an object name. If successful, this query returns a position and the low-level server is tried again.

The low-level server determines which ISSA plate contains the position of interest, reads the data off CD-ROM and extracts a 2-degree square field from each of the four *IRAS* bands. We chose this size because it is the largest size that guarantees that the entire field will be on a single plate, and our philosophy is not to do any further processing of the data, such as creating mosaics, which might alter its reliability and usefulness. Users are, of course, free to do so at their end.

Once extracted and saved to a public ftp area, gif representations of the postage stamps are made, and pointers to all these files are returned to the managing server. There an html page is generated, containing the gifs as in-line images, along with text containing the target coordinates and a number of caveats as to the use of ISSA images. The html page is sent back to the user and formatted by their Web client.

3. Usage

The service gets from a few to 50 requests a day, averaging about 10. We log connecting site names, and find that there are many casual users as well as obviously astronomical users. A few sites are responsible for large numbers of requests, and we surmise that they are conducting large scale surveys. Large surveys were very difficult to conduct prior to the existence of this service, unless one was willing to write sophisticated software to manage and query the CD-ROM image dataset.

One can connect to the service using not only NCSA Mosaic or other Web browsers, but also with custom client software that sends queries and interprets the returned html to then transfer the FITS files back to the user's disk space. Operating in this mode, users can have an "*IRAS* in a box" for which they can define their own interface.

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