

THE ALADIN INTERACTIVE SKY ATLAS

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1. Introduction

The subject of this symposium, Multi-Wavelength Sky Surveys naturally invokes a discussion of methods of astronomical object identification and classification: Given a set of objects detected at a certain waveband, how does one integrate the new sources with previous data? The ALADIN system (Paillou *et al.* 1994) of the CDS is a software package designed to tackle this problem: It provides simultaneous access to digitized sky photographs, catalogs and databases to facilitate direct, visual comparison of user data with previously classified data, as well as automatic source extraction and calibration tools.

2. System Description

In the basic client-server architecture of ALADIN, the client communicates with the CDS ALADIN server and manages local data, such as user catalogs. The CDS ALADIN server in turn directs a host of servers dedicated to each of the individual CDS information services.

One of the central aspects of the system is the archive of densely sampled images the quality of which is required for optical cross-identifications in crowded regions of the sky or in areas with deep observations. This archive consists of an optical disk juke-box with a capacity of 500 Gb that includes the ESO-R and SERC images of the Galactic Plane, the Ecliptic Poles and the Magellanic Clouds all of which scanned by the MAMA or SuperCOS-

MOS facilities. In addition, the Digital Sky Survey (Lasker 1994) provides a full sky coverage at a lower density.

ALADIN displays SIMBAD objects on the current image along with their associated names and error boxes. Except for differences arising from the greater variety of formats, the access to CDS and user catalogs works on the same principles as the access to SIMBAD.

The images displayed by ALADIN will not simply represent a reference map, but also quantitative data: it will be possible to perform astrometric and photometric measurements, search and extract objects (for example near external catalog positions), measure object parameters, and classify objects as either stars or non-stars (*e.g.*, galaxies).

ALADIN directly provides both the astrometric calibration, as given by the digitizing machine, and a photometric calibration, performed in Strasbourg, as described in Bartlett *et al.* (1995). Eventually ALADIN will also allow an interactive photometric and astrometric *recalibration* of an image using new catalogs of standards (Tycho, for example).

3. Status of the Project

An extended prototype capable of managing a set of about 190 densely sampled Schmidt plate images, stored in the optical disk jukebox, and the DSS-1 CDROMS has been installed at several astronomical institutions in France. We are currently testing the first public version of the ALADIN client, incorporating most of the functions of the proposed system, which we plan to distribute in France and to a couple of other sites by the end of 1996. A second version, including recalibration tools and contour overlays, as well as a WEB version ('ALADIN-lite') will be distributed in late 1997. The archive of densely sampled data is 70% full, presently containing 400 Gbytes of data, and will be completed in the first semester of 1997. The DSS-II data (Lasker *et al.* 1996) will be progressively integrated starting in early 1997.

References

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