

The data zoo in Astro-WISE

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Abstract In this paper we describe the way the Astro-WISE information system (or simply Astro-WISE) supports the data from a wide range of instruments and combines multiple surveys and their catalogues. Astro-WISE allows ingesting of data from any optical instrument, survey or catalogue, processing of this data to create new catalogues and bringing in data from different surveys into a single catalogue, keeping all dependencies back to the original data. Full data lineage is kept on each step of compiling a new catalogue with an ability to add a new data source recursively. With these features, Astro-WISE allows not only combining and retrieving data from multiple surveys, but performing scientific data reduction and data mining down to the rawest data in the data processing chain within a single environment.

Keywords Astronomical data model · Information system · Data processing · Astronomical surveys

1 Introduction

The increasing challenge of data management in astronomy is created not only by the increasing volume of the data flowing in from the telescopes, but as well by the variety of new astronomical catalogs and surveys being created. Combined analysis of multi-survey datasets from different instruments has the potential to solve outstanding questions in a wide range of astronomical and astrophysical areas. These include the combining of optical

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