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TRACKING TRENDS & PERFORMANCE IN BASIC RESEARCH

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2010 : February 2010 - Fast Breaking Papers : Michael Strauss Talks About the Seventh Data Release of the Sloan Digital Sky Survey

fast breaking papers - 2010

February 2010

Michael Strauss talks with *ScienceWatch.com* and answers a few questions about this month's Fast Breaking Paper Paper in the field of Space Science.



Article Title: The Seventh Data Release of the Sloan Digital Sky Survey

Authors: Abazajian, KN, et al.

Journal: ASTROPHYS J SUPPL SER, Volume: 182, Issue: 2, Page: 543-558, Year: JUN 2009

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(addresses have been truncated.)

SW: Why do you think your paper is highly cited?

It describes a very useful, and indeed, widely used dataset; basically, everyone using these data will cite this paper. As the paper describing the 7th public data release of the **Sloan Digital Sky Survey (SDSS)**, it is a useful reference for all papers using these data.

This is the 8th such data release paper (we had an "Early Data Release" before we started counting); the other seven papers, which came out between 2002 and 2008, had between 300 and 1,100 citations—totals which are accessible from the **Astrophysics Data System (ADS)**.

SW: Does it describe a new discovery, methodology, or synthesis of knowledge?

It describes a substantial, 25% increment on an existing dataset, completing this phase of the survey. It also describes improvements to the software used to process the data.

SW: Would you summarize the significance of your paper in layman's terms?

The SDSS has produced a map of the Universe, a census of the heavens, which can be used in every area of astronomical research, from studies of asteroids in the Solar System to the most distant quasars.

It is a fully public dataset, which has been used by thousands of researchers all over

the world. This paper describes the completion of this survey in its current incarnation, making measurements of the properties of 357 million objects.

SW: How did you become involved in this research, and were there any problems along the way?

I have been involved in the SDSS for almost 20 years, and as Deputy Project Scientist, I was one of the organizers of the regular data releases (I was the guy who actually did the writing of this paper). There are a lot of problems indeed in managing a \$130 million project with roughly 200 actively involved scientists, but in fact, this data release, and the writing of the paper describing it, went smoother than many of the earlier data releases.

SW: Where do you see your research leading in the future?

With the completion of the 7th data release, the SDSS finished its core goals of mapping in detail 10,000 square degrees of sky. The project is now in its third phase (SDSS-III) with expanded goals of surveying more distant galaxies to study their large-scale distribution.

SDSS-III also is carrying out a comprehensive survey for planets, and is studying the chemical composition and motions of stars in our Milky Way in order to understand its structure and formation.

SW: Do you foresee any social or political implications for your research?

The SDSS has definitely set a standard for large collaborations in astronomy and, by making its data public, we have demonstrated that large, complex projects like this are both doable, and scientifically very worthwhile. The project is thereby influencing the next generation of sky surveys with more capable facilities, such as the [Large Synoptic Survey Telescope](#) (LSST), which will emulate the SDSS in various aspects of its collaboration structure, data management, and distribution of the data to the world.

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KEYWORDS: ATLASES; CATALOGS; SURVEYS; SPECTROSCOPIC TARGET SELECTION; CCD ASTROGRAPH CATALOG; GALAXY SAMPLE; OPEN CLUSTERS; STARS; PHOTOMETRY; SYSTEM; FIELD; CALIBRATION; MANAGEMENT.

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