The Sloan digital sky survey

A quick introduction

Yogesh Wadadekar

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Basic characteristics of the original Sloan survey

- imaging and spectroscopic survey of π steradian (10^4 degrees) of sky using a custom designed telescope.
- near simultaneous imaging in five filters using a 120 Mpixel camera.
- follow up spectroscopy of 10^5 quasar candidates and 10^6 galaxies.
- main science goal: *Study the large scale structure of the Universe* - it has been used to study from main belt asteroids to the Gunn-Peterson effect.

Major scientific discoveries made by the Sloan Digital Sky Survey

- discovery of main belt asteroid populations
- complete characterisation of large scale structure in the near universe using both galaxy clustering and absorber properties
- discovery of baryon acoustic oscillations imprinted in the early universe.
- Evidence that the universe was neutral before it got ionised by stars - Gunn-Peterson effect
- optically obscured quasars
- complex Milky way kinematics - new dwarf satelites, tidal streams, multiple galaxy mergers.
- largest sample of low redshift Type Ia supernovae compiled with many applications to supernova physics and cosmology.

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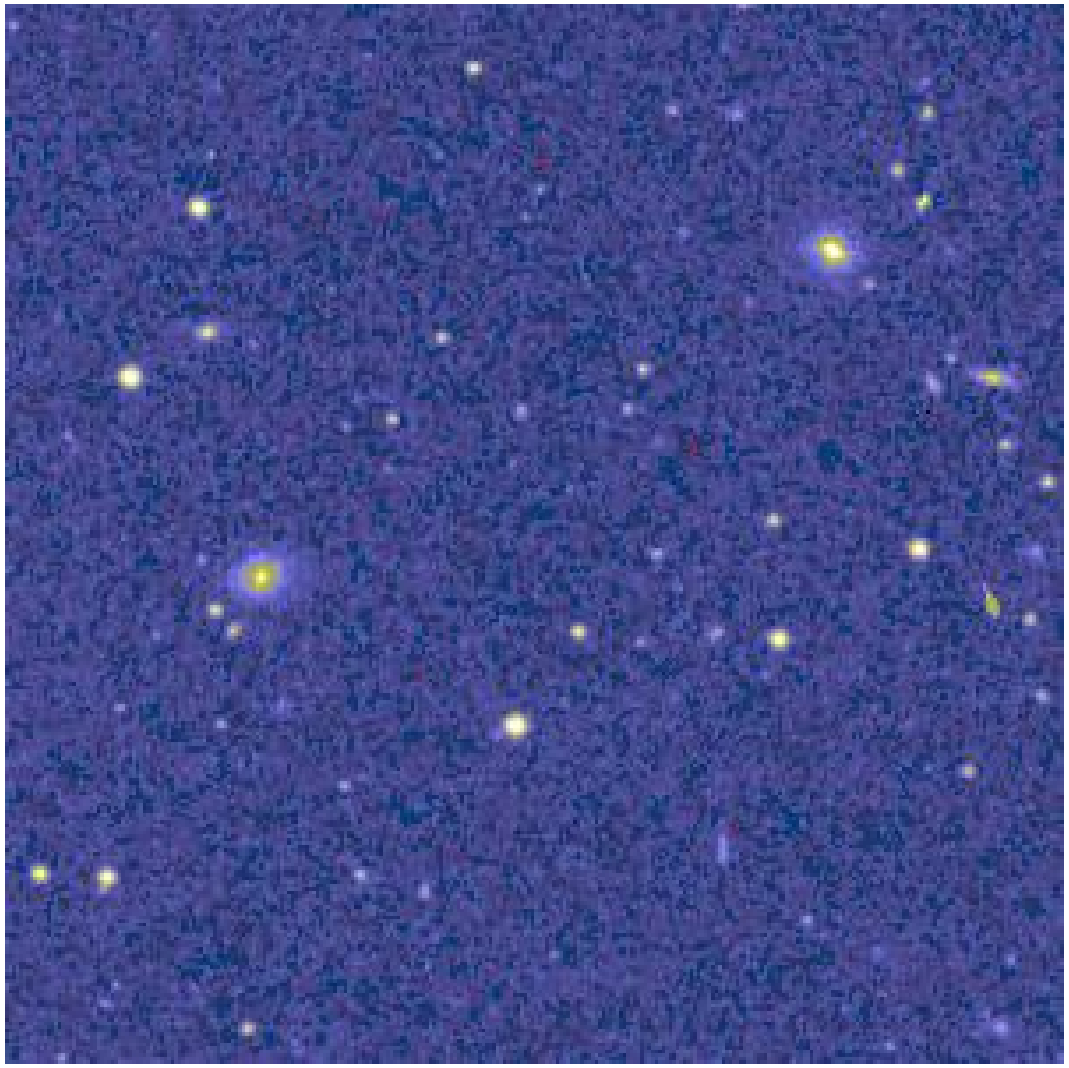
- since the datasets are precisely defined and free other researchers can easily reproduce your results. This greatly improves provenance and hence credibility.

Digitized Sky Survey



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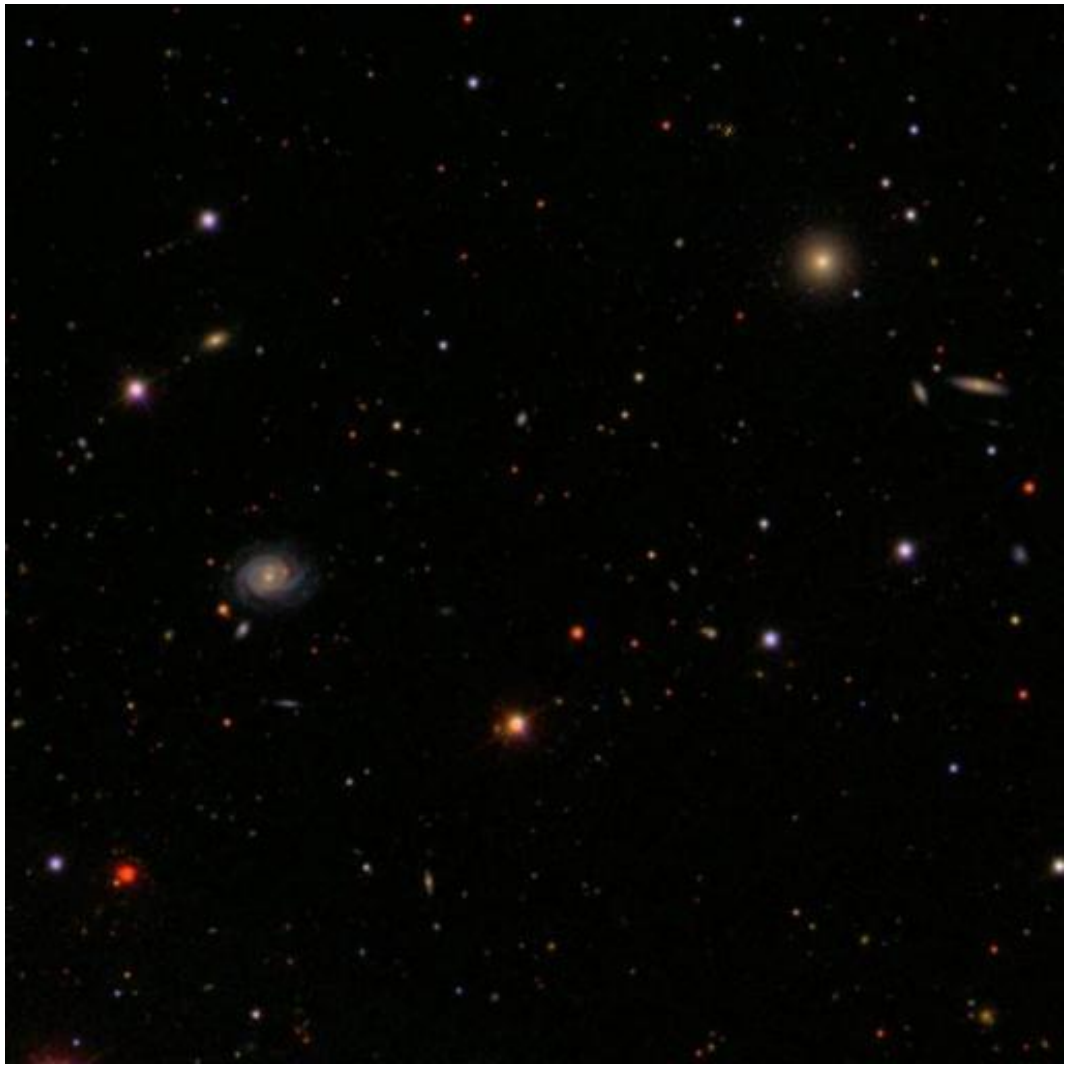
Sloan Digital Sky Survey



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Cloud computing

In the current paradigm, our data is on our computers, computation is on our computers and storage of final products is also on our computers. This paradigm works well if are resource rich, not otherwise.
In the cloud paradigm, data is on the cloud, computation is on the cloud, storage is on the cloud and