Collaboration: ~150 scientists from

- Am. Museum Nat. History
- Astrophysical Inst. Potsdam
- U. Basel
- Cambridge U.
- Case Western Reserve
- U. Chicago
- Drexel U.
- Fermilab
- Institute for Adv. Studies
- Japanese Participation Grp
- Johns Hopkins U.
- JINA
- Kavli Institute for Part. Astro.
- Korean Scientist Group
- LAMOST (China)
- Los Alamos Nat. Lab
- Max Planck Inst. Astron.
- Max Planck Inst. Astrophy.
- New Mexico State U.
- Ohio State U.
- U. Pittsburgh
- U. Portsmouth
- Princeton U.
- US Naval Obs.
- U. Washington
SDSS II - the sequel
3 year mission (2005-2008)

- Legacy:
  - Complete SDSS program
  - Imaging and Redshift survey - Large scale structure

- SEGUE:
  - Milky Way halo – Dark Matter probes

- Supernovae
  - Low and intermediate redshift, Dark Energy probe

- Funding:
  - Sloan, DOE, NSF, NASA, Japanese Mongbukagakusho, Max Planck Society, HEFCE
Integrated Luminosity - Imaging
**Integrated Luminosity - Spectroscopy**

Near-record rainfall
# Supernova Results

<table>
<thead>
<tr>
<th>Year</th>
<th>Predicted</th>
<th>Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>60-70</td>
<td>74*</td>
</tr>
<tr>
<td>2006</td>
<td>60-70</td>
<td>In progress</td>
</tr>
</tbody>
</table>

*SDSS “clean sample”
SDSS Status

• We are near the end of year 7 of "steady state operations"

• Data Releases occur in quantized intervals - DR6, coming up in July, contains all data in years 1-6.

• > 1000 papers, 30,000 citations in literature

Galaxy at redshift z=2.7

8 o'clock Arc: Using Dark Matter as a “zoom” lens.
**SDSS Impact**

### Table 1. HIGH-IMPACT OBSERVATORIES

<table>
<thead>
<tr>
<th>Rank</th>
<th>Facility</th>
<th>Citations</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SDSS</td>
<td>1843</td>
<td>17.4%</td>
</tr>
<tr>
<td>2</td>
<td>ESO</td>
<td>1365</td>
<td>12.9%</td>
</tr>
<tr>
<td>3</td>
<td>HST</td>
<td>1124</td>
<td>10.6%</td>
</tr>
<tr>
<td>4</td>
<td>WMAP</td>
<td>1121</td>
<td>10.6%</td>
</tr>
<tr>
<td>5</td>
<td>Keck</td>
<td>642</td>
<td>6.0%</td>
</tr>
<tr>
<td>6</td>
<td>Kamiokande</td>
<td>372</td>
<td>3.5%</td>
</tr>
<tr>
<td>7</td>
<td>Chandra</td>
<td>365</td>
<td>3.4%</td>
</tr>
<tr>
<td>8</td>
<td>ACBAR</td>
<td>207</td>
<td>2.0%</td>
</tr>
<tr>
<td>9</td>
<td>NOAO</td>
<td>202</td>
<td>1.9%</td>
</tr>
<tr>
<td>10</td>
<td>Las Campanas</td>
<td>176</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

We did not include them in this study. For those papers that included observational data we determined the facility or facilities used by the authors examining the observation sec-

published in 2002 and 2003 (Madrid et al. 2006). This allows us to see the evolution with time of the different high-impact facilities.

The SDSS ranks as the facility with the highest impact in astronomy for the second year in a row. This astronomical survey is made with a dedicated 2.5-meter telescope on Apache Point Observatory in New Mexico. ESO, that ranks second this year, was ranked 10th in 1998 and has climbed its way to be among the five observatories of highest impact every year since 2001.

HST and the Wilkinson Microwave Anisotropy Probe rank closely third and fourth respectively. HST is a permanent member of this list of high-impact observatories ranking year after year among the top five. WMAP ranked first on a previous ranking based on the analysis of papers published in 2003 (Madrid et al. 2006).

Based on number of citations to published papers
On the horizon

- After Sloan 2 (AS2) proposal now being developed
  - 4 Experiments
  - 6 yrs operations
  - Level of Fermilab participation still TBD