

Princeton Activities

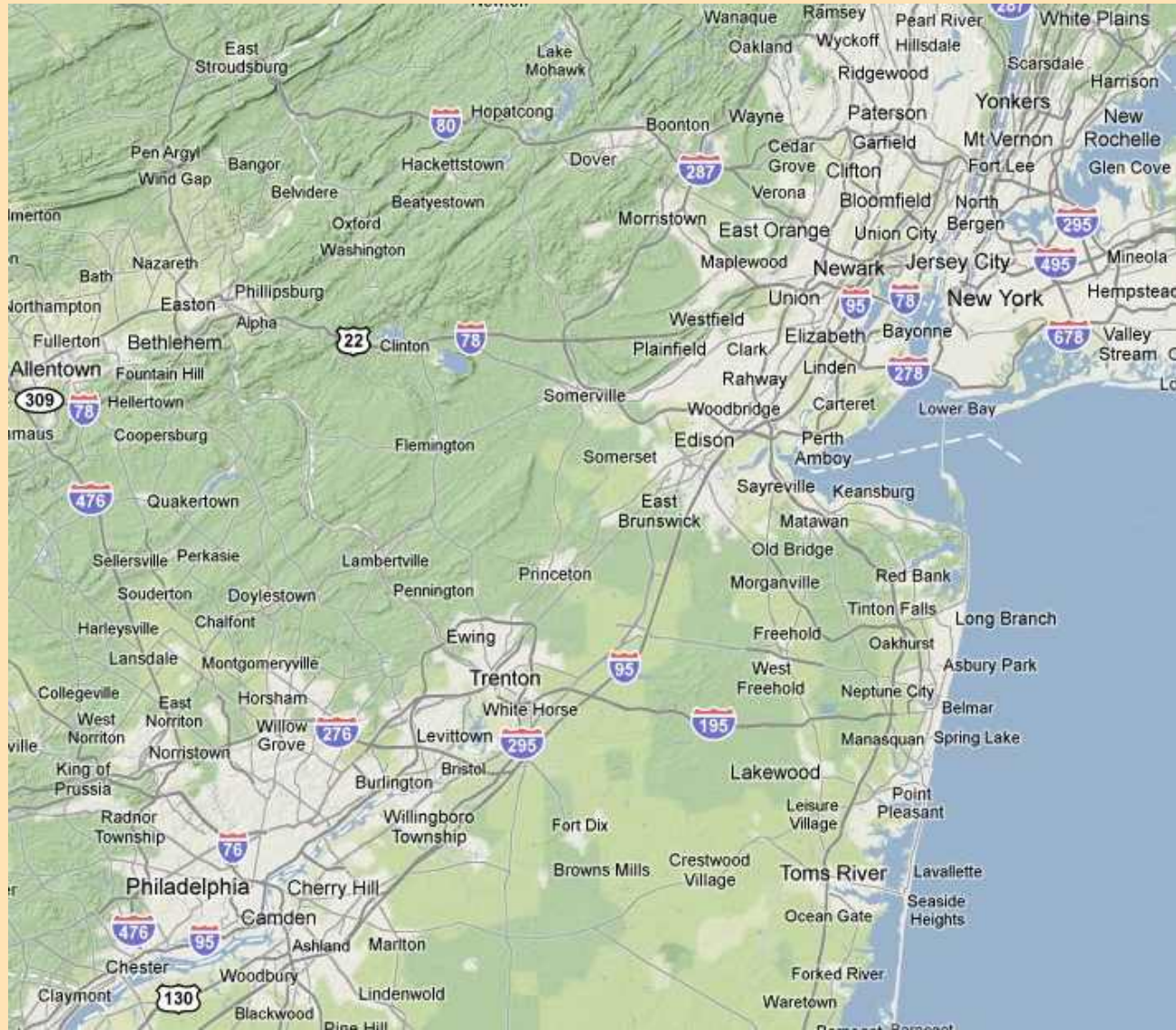
Robert Lupton

Princeton University

NAOJ, 14th January, 2010







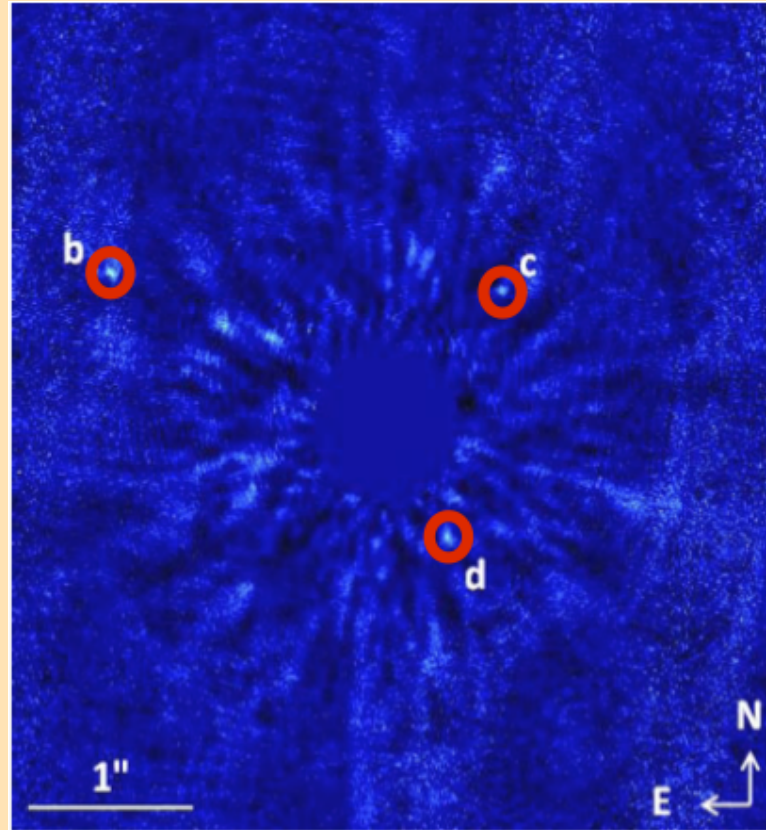
Princeton Involvement in SEEDS

Michael McElwain, Jeremy Kasdin, ...

Princeton Involvement in SEEDS

Michael McElwain, Jeremy Kasdin, ...

- Co-chief of Debris Disks
- Co-chief of Moving Groups
- Chief of White Dwarfs



HR 8799: Subaru/AO188 and HiCIAO composite H-band image of HR 8799 after ADI processing. 525s, 7.5° of field rotation. At least two of the planets discovered by Marois et al. (2008) were reconfirmed here.

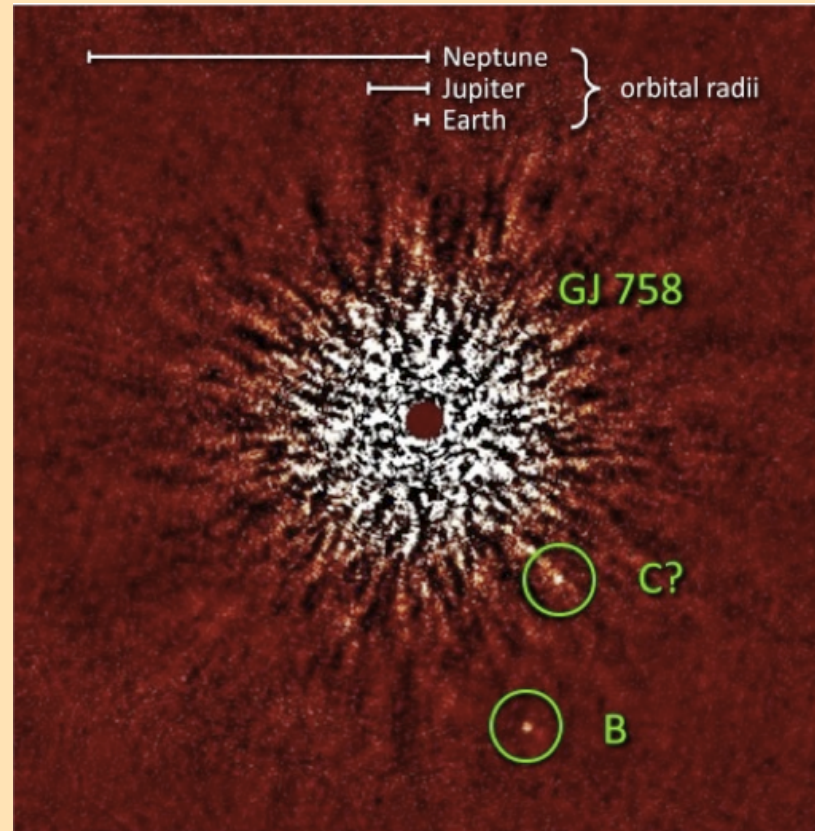
SEEDS Commissioning Contributions

- Assistance with HiCIAO commissioning
- Angular Differential Imaging (ADI) Pipeline (in collaboration with MPIA Heidelberg)
- Participation in GJ 758B paper
- 2010 AAS meeting

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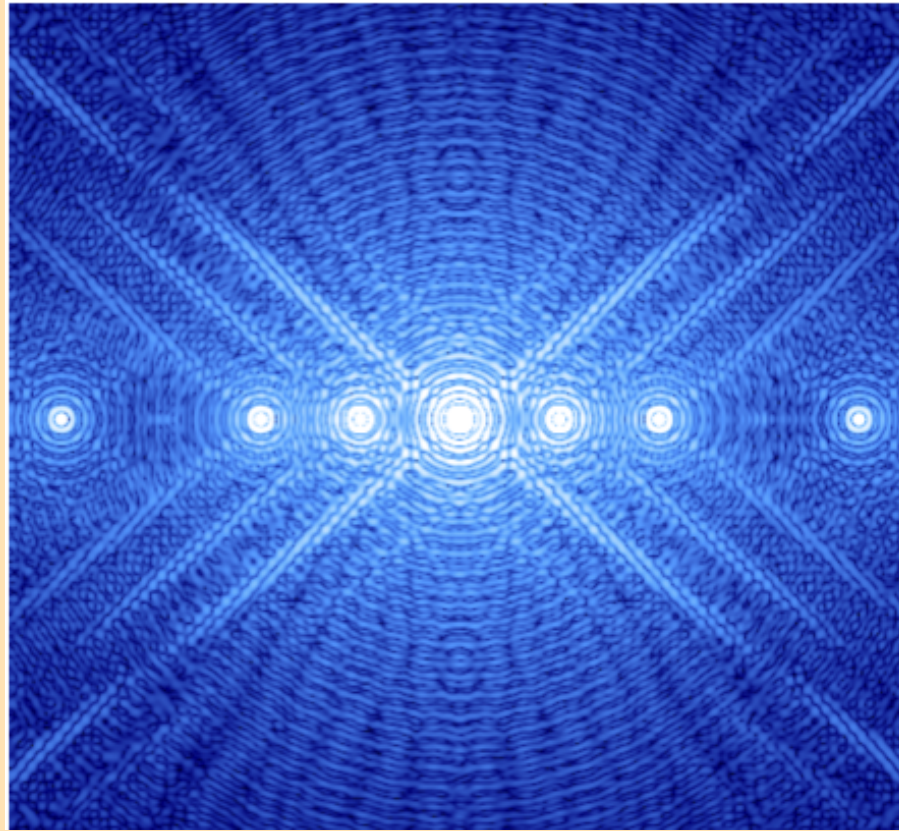




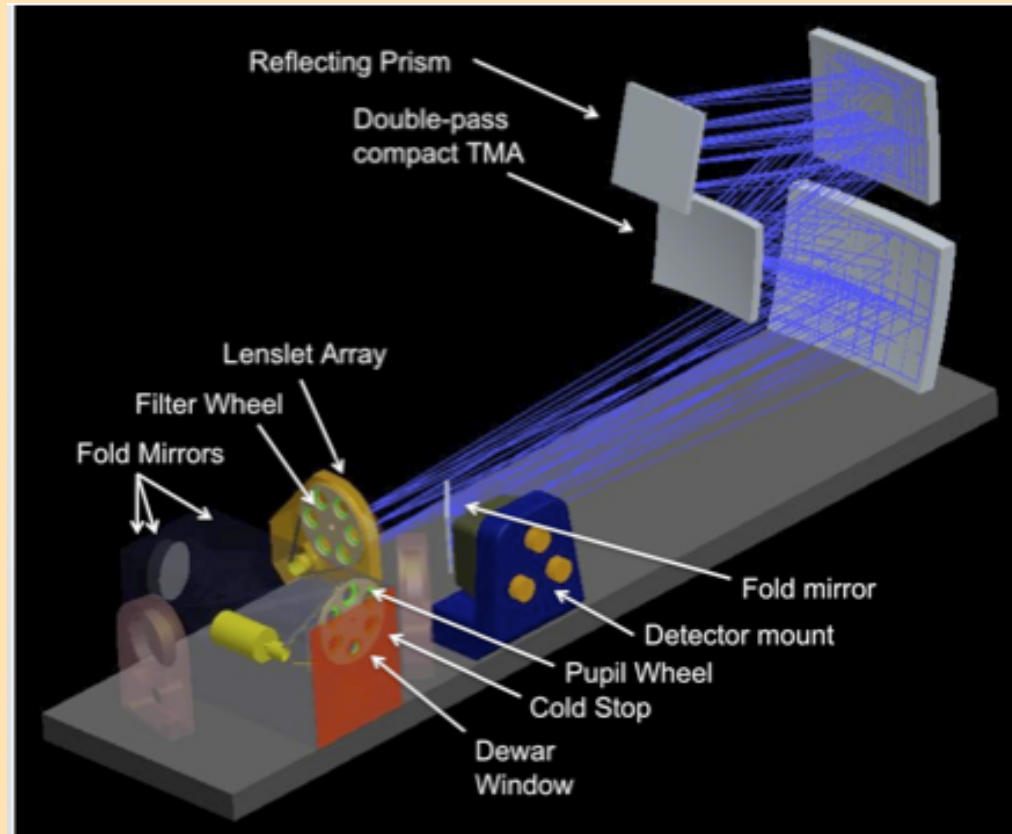
GJ 758 (G8V, 15.5pc, b 10-40 Mjup (1.9"))

Common proper motion object with $\Delta H = 13.72$ ($3.3e-6$) at 1.2". Coolest companion seen in emission; 550-640K

Development of Next Generation HiCIAO Instrumentation



Periodic Amplitude Pupil Masks (PAPM) are designed to introduce satellite PSFs in the image plane that can be used for image registration, astrometry, and photometry.



Near IR ($0.7 - 2.4\mu m$) Integral Field Spectrograph (IFS) proposal.

Princeton Involvement in HSC

Michael Strauss, Jim Gunn, ...

Princeton Involvement in HSC

Michael Strauss, Jim Gunn, ...

- Consultation with 宮崎 聡 on hardware
- Working with Japanese colleagues on survey strategy
- Software

The SDSS Legacy

Michael Strauss, Jim Gunn, ...

The SDSS Legacy

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- Built much of the hardware
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The SDSS Legacy

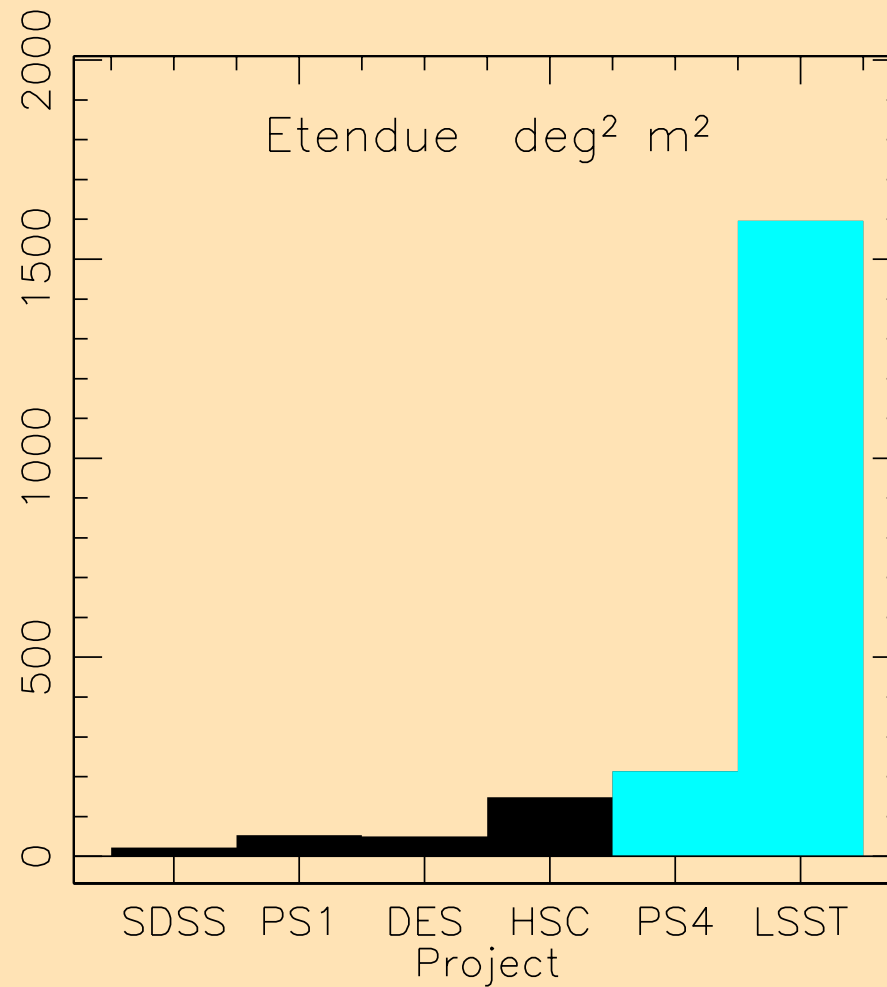
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SDSS was a great success, but we can do better

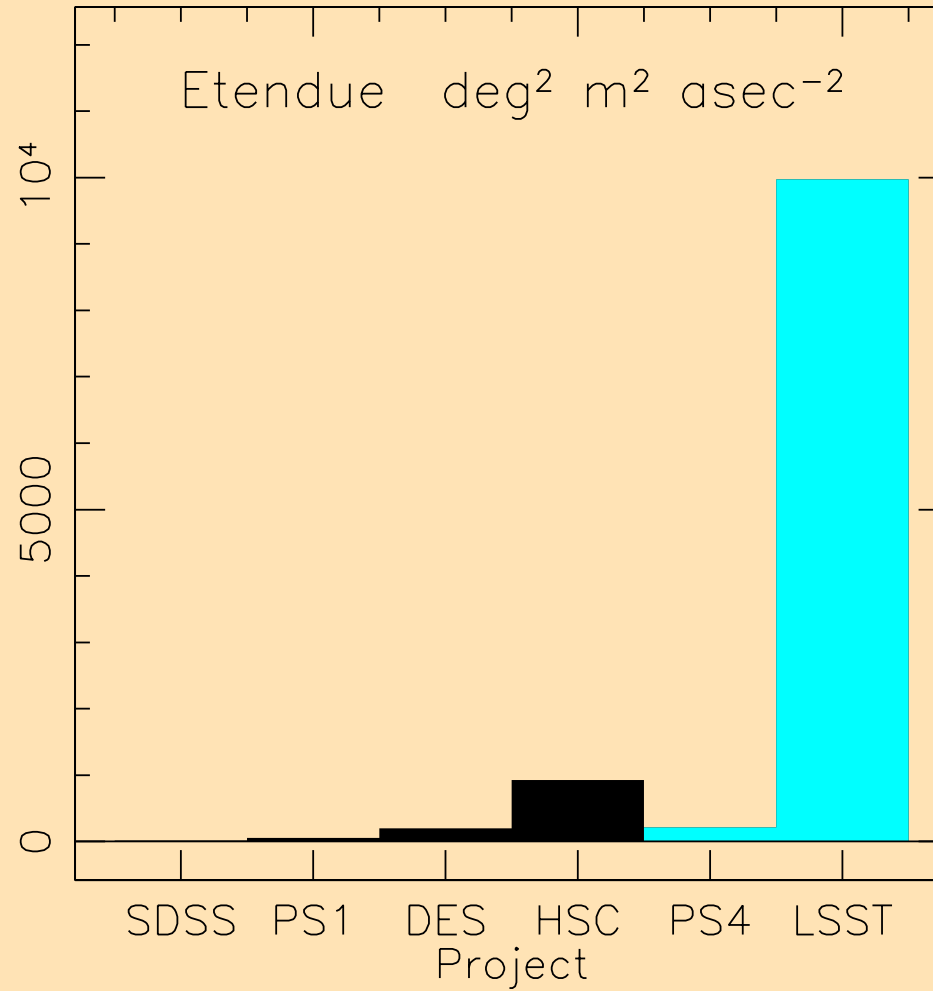
Here is the usual propaganda plot:

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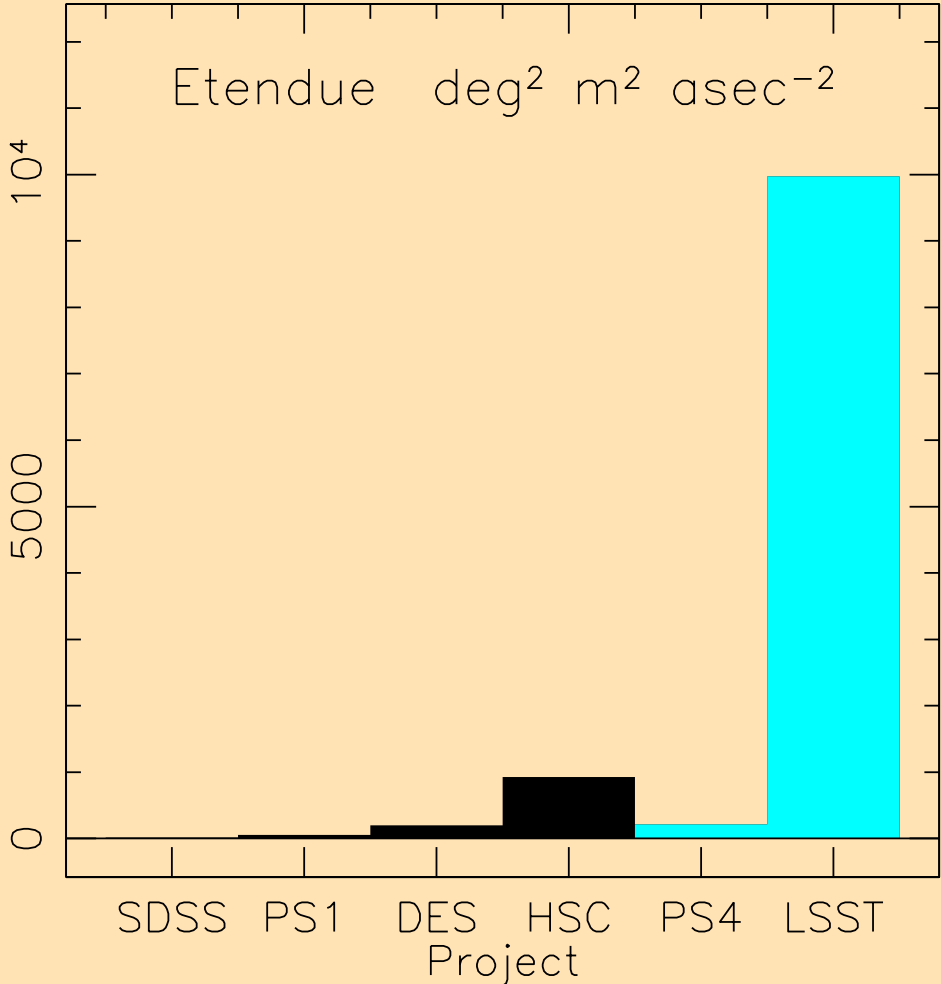


The cyan projects are not yet funded

It looks better if you include the seeing

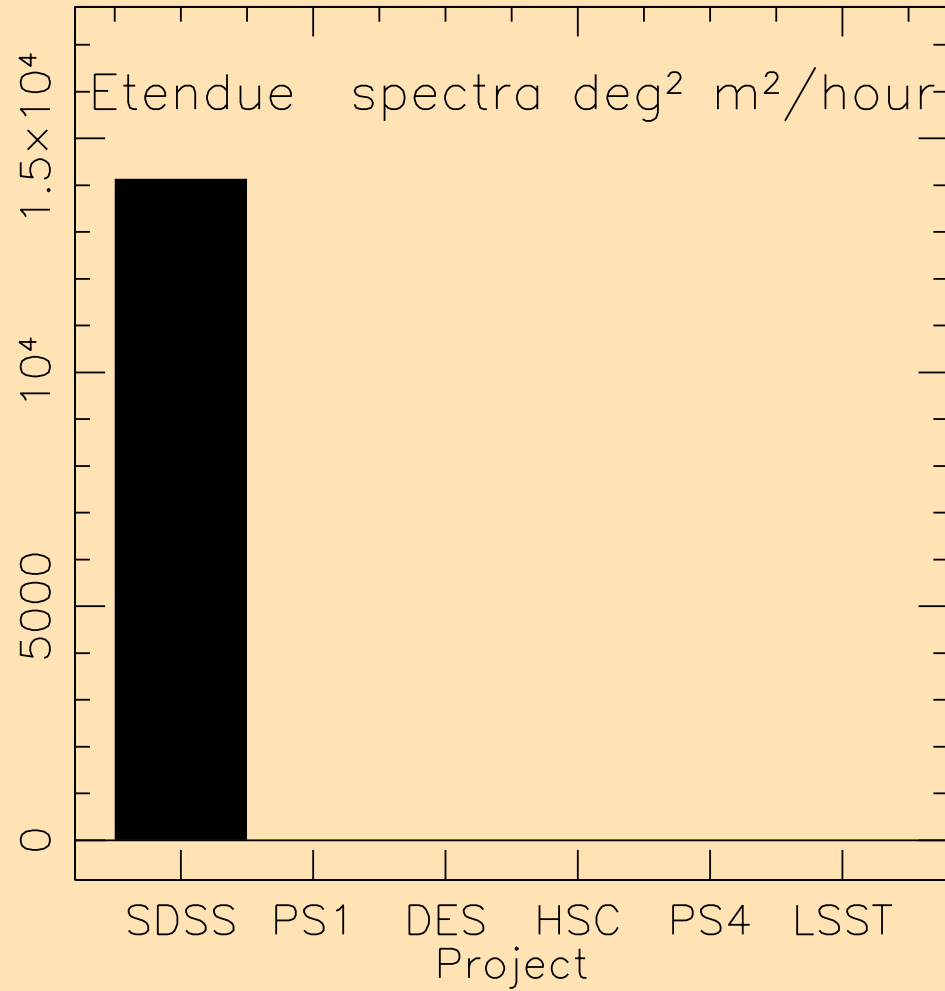


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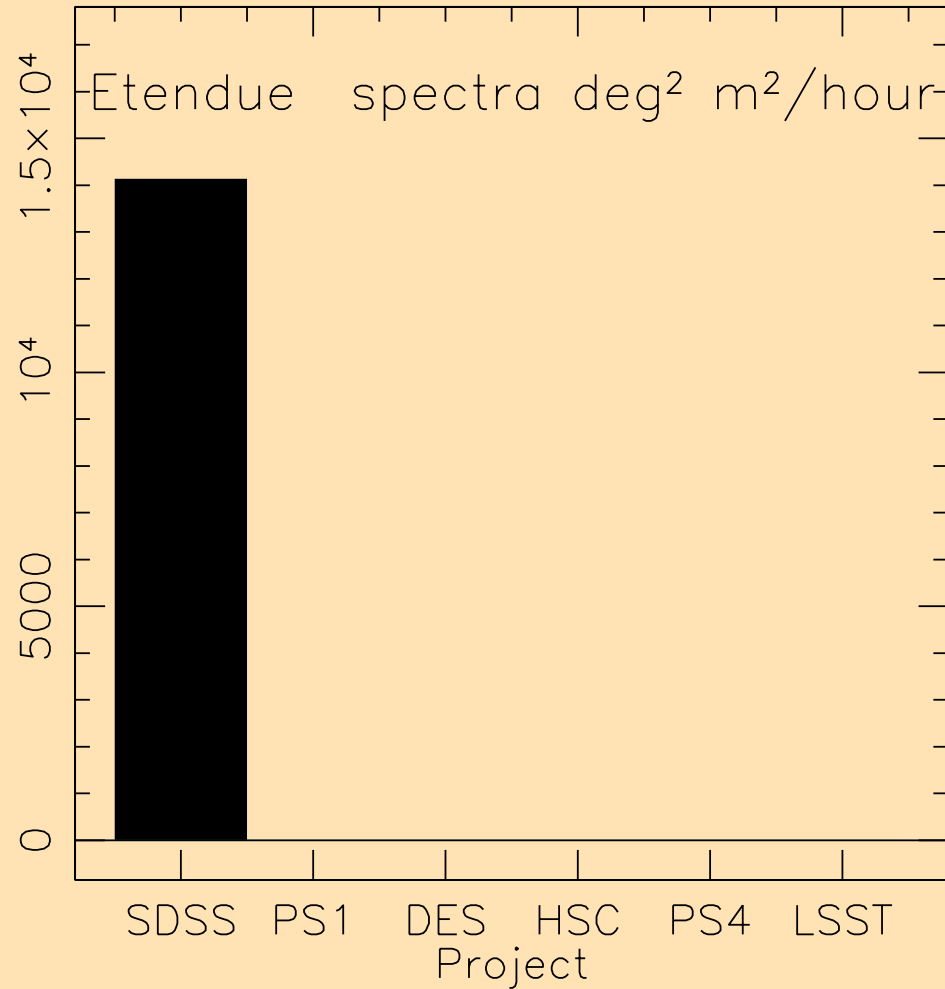


Clearly HSC will be much more exciting than Sloan

Here's another version

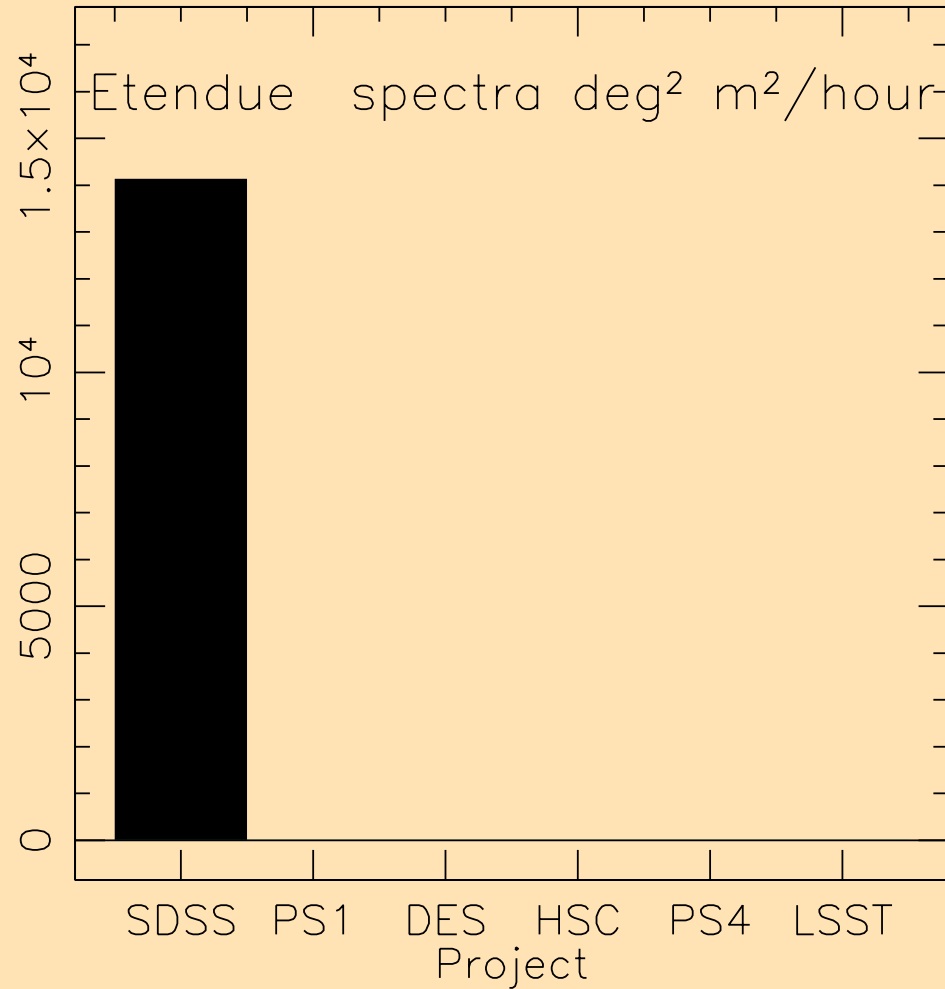


Here's another version



The SDSS spectrographs have been incredibly valuable

Here's another version



What if we could add a spectrograph to Subaru?

