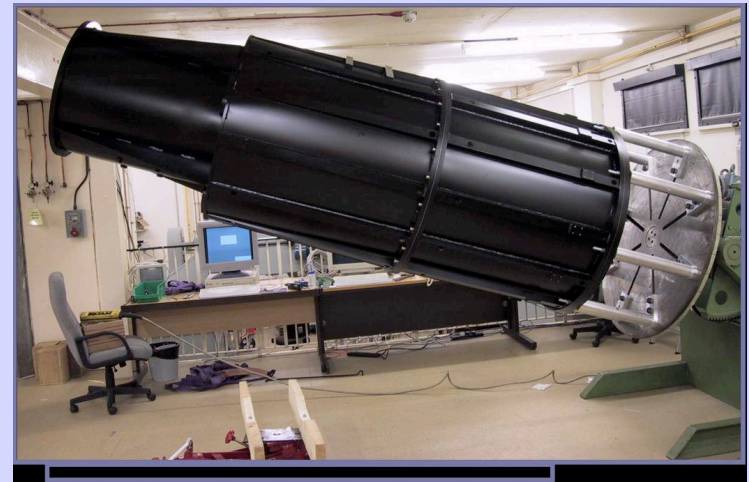


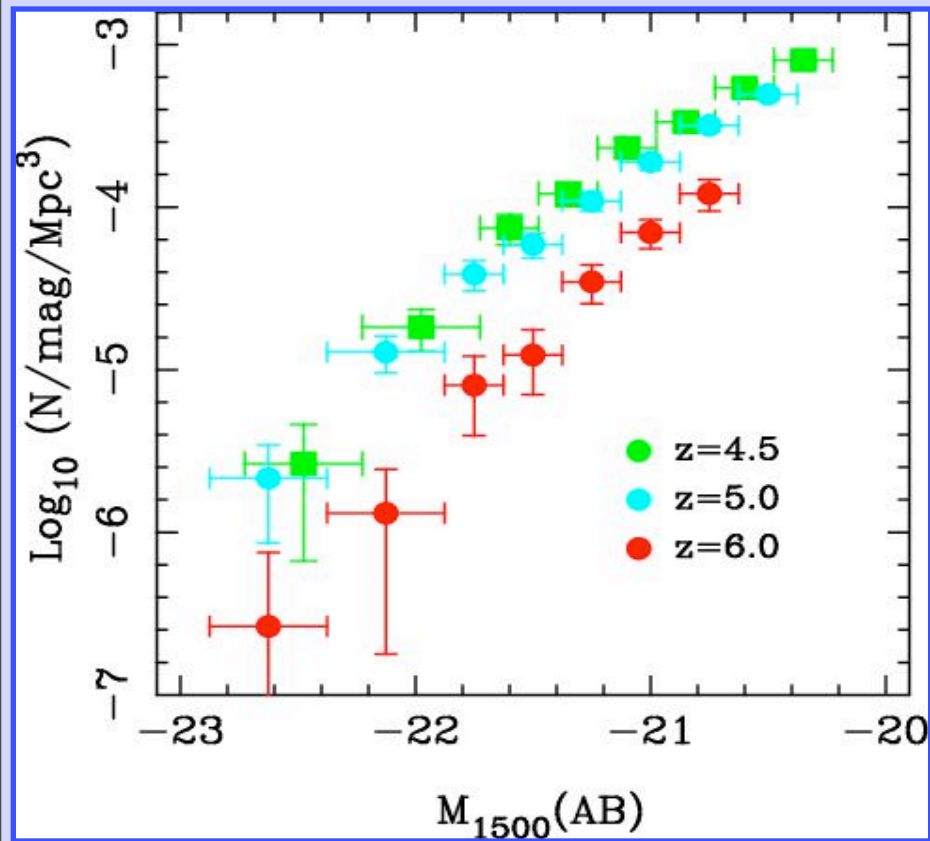
UKIDSS

- Science
- Status
- UKIRT++
- Future



Science Pick

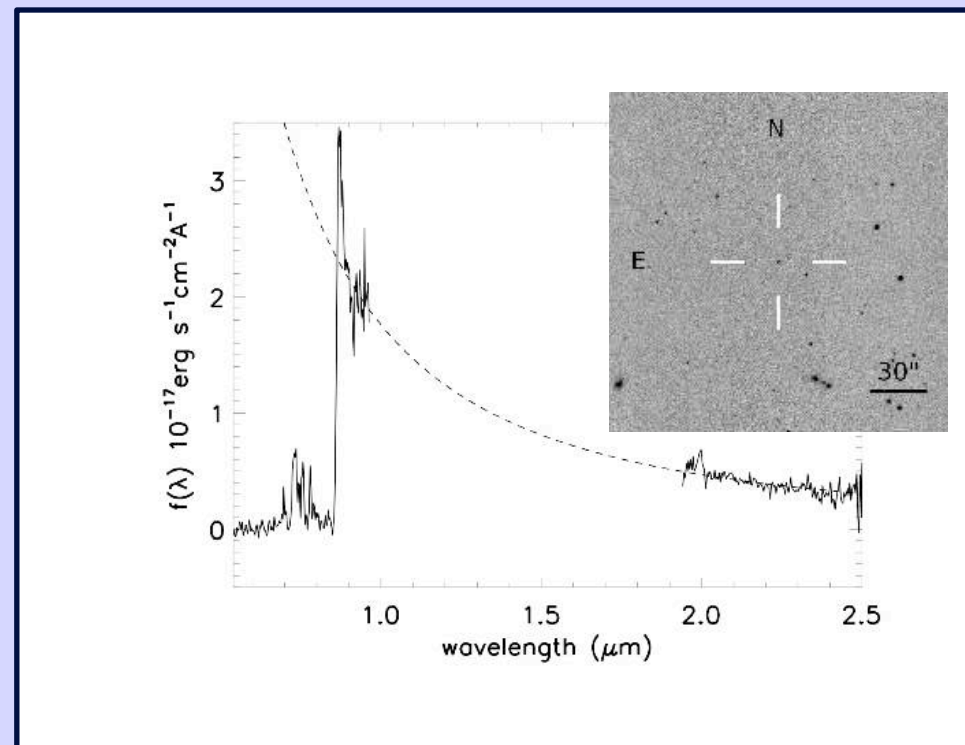




evolution of LBGs $z=5-6$

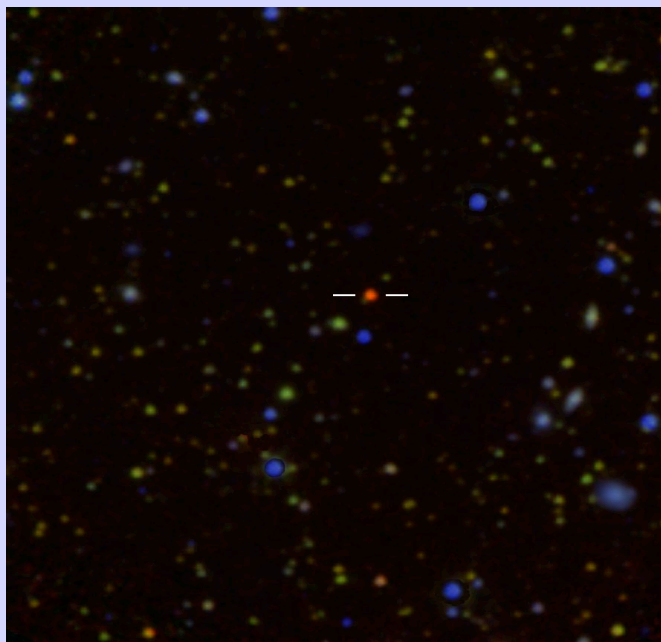
McLure et al 2008

twice as many $z=6$
quasars as SDSS



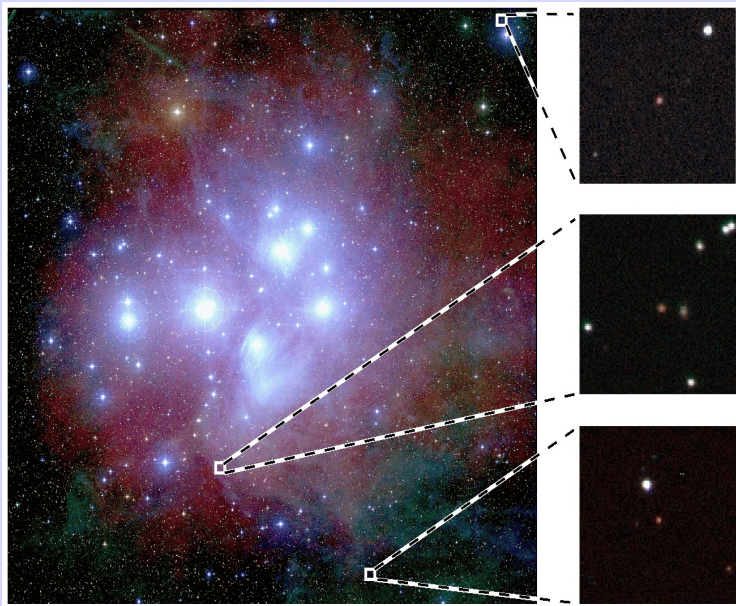
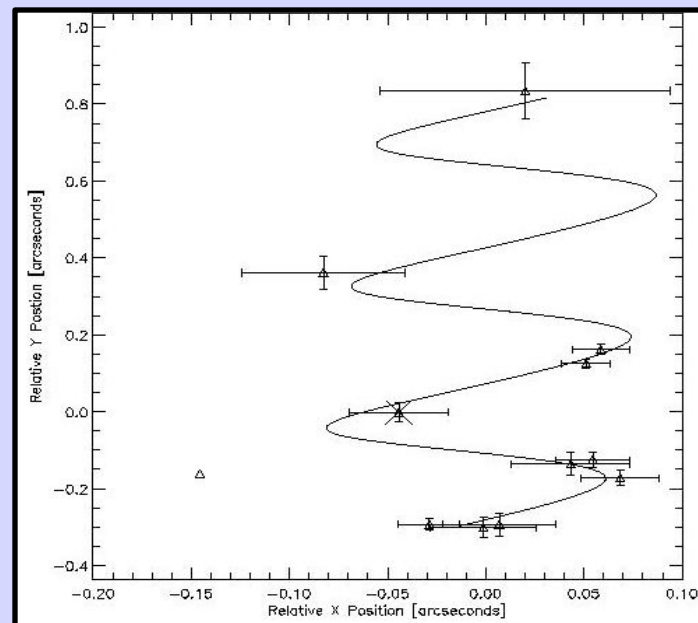
Mortlock et al 2009

(Briefly) coldest known star

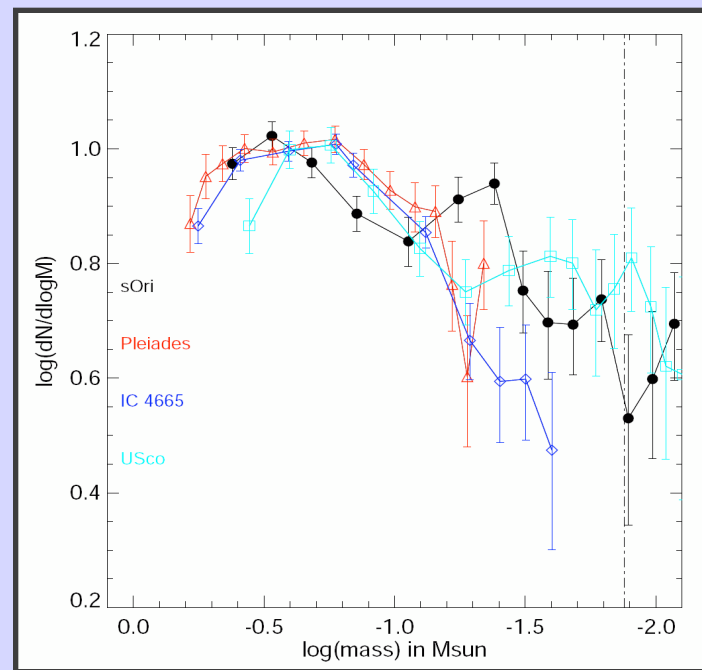


ULAS J0034-00
T8.5 T=675K
Warren et al 2007

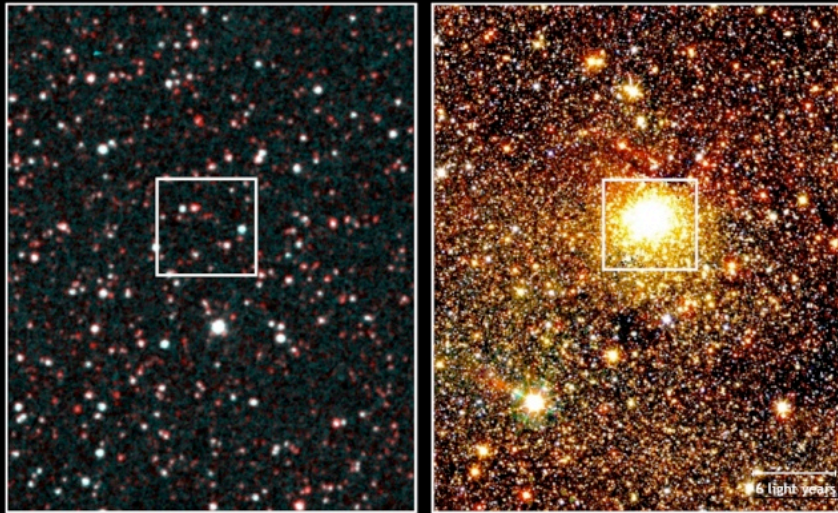
Parallax D=14pc
Smart et al in prepn



Hambly et al
in prepn



Substellar MF : log-Gaussian



Heat from the Heavens - Opening up the Infrared Sky

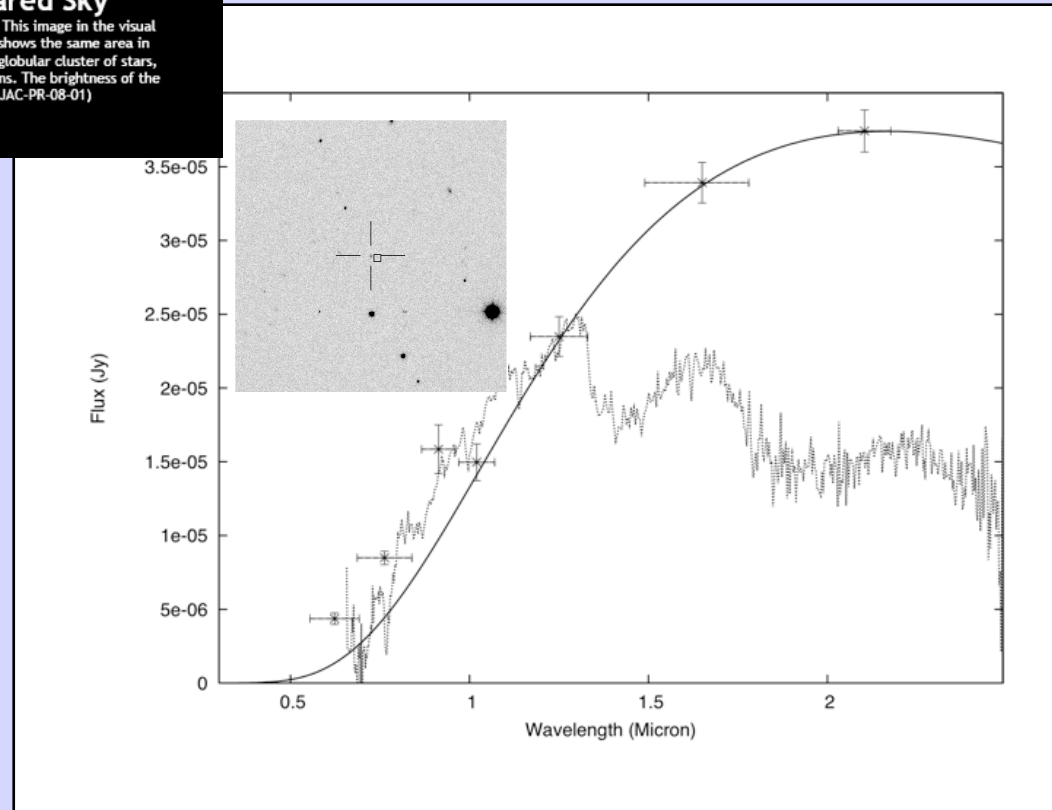
The image on the left shows a region about 9,000 light years from Earth in the Constellation of Aquila. This image in the visual wavelengths was taken by the Palomar Sky Survey in the 1950s. In comparison, the image on the right shows the same area in the infrared, taken as part of the UKIDSS DR1 release. The infrared image reveals the presence of the globular cluster of stars, first seen by the Spitzer Space Telescope, which is about 6 light years across with a mass of 300,000 suns. The brightness of the stars varies dramatically between the visible and infrared wavelengths due to interstellar extinction. (JAC-PR-08-01)

Gal.Plane cluster
search - the IR
difference !

Lucas et al in prepn

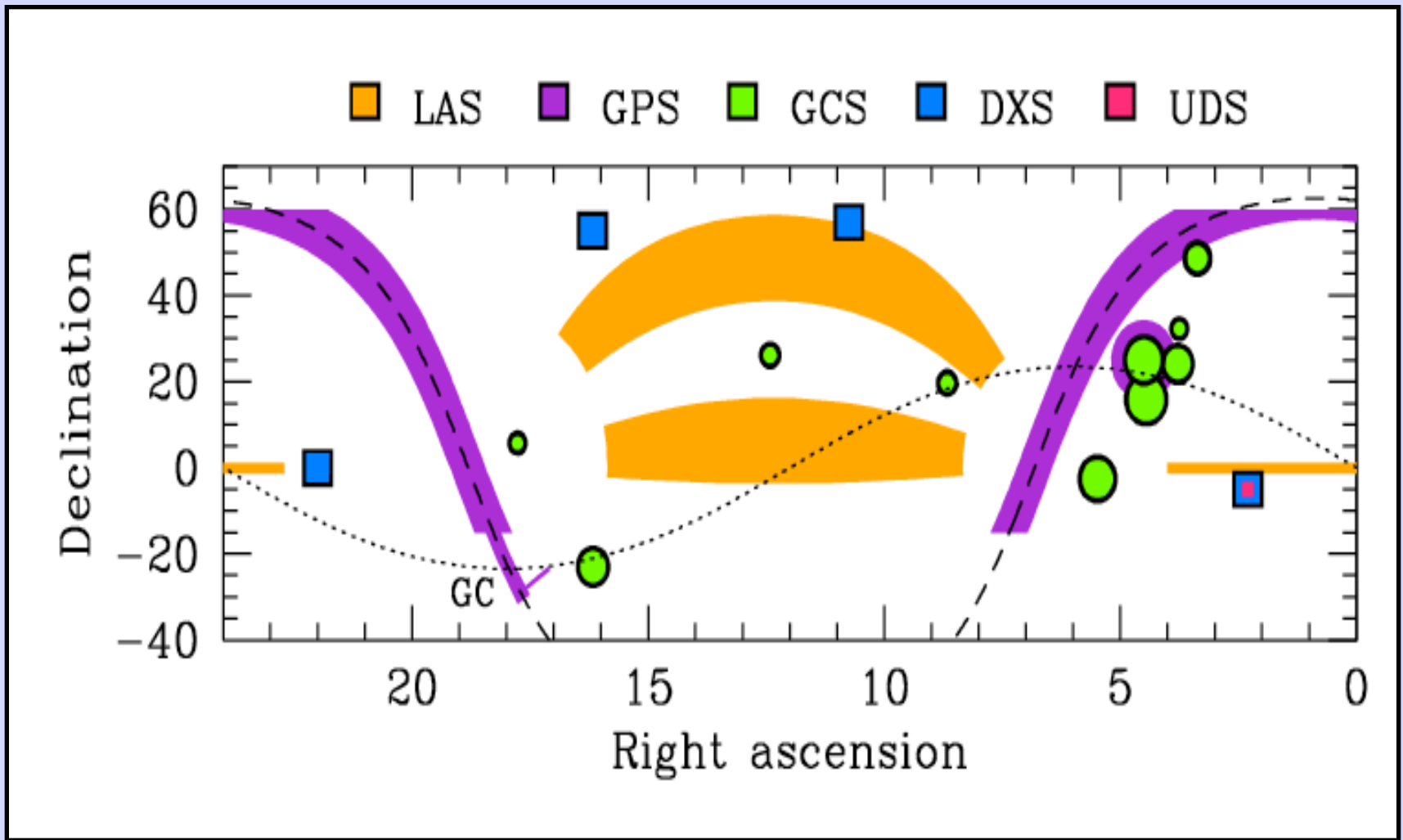
First **black dwarf**
 $T=2350$ Black Body
 \Rightarrow pure He atm. WD

Casewell et al in prepn

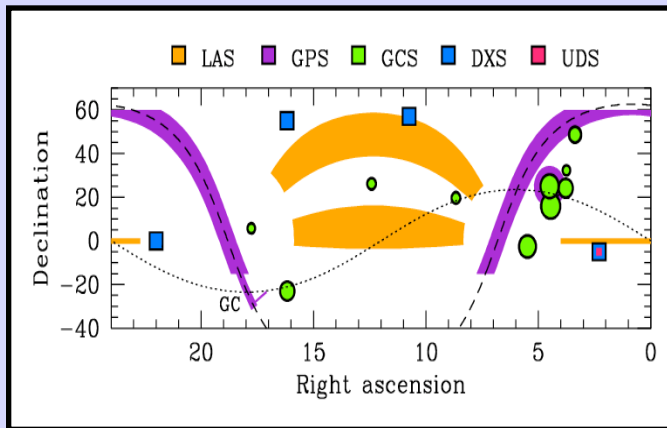


The image shows a vast field of stars and galaxies. In the center, there is a prominent, elongated, yellowish-white galaxy with a bright core. The surrounding space is filled with numerous smaller, distant galaxies and individual stars of various colors, including blue, red, and white. A yellow rectangular box with a thin black border is positioned in the upper-middle part of the image, containing the word "Status" in a bold, black, serif font.

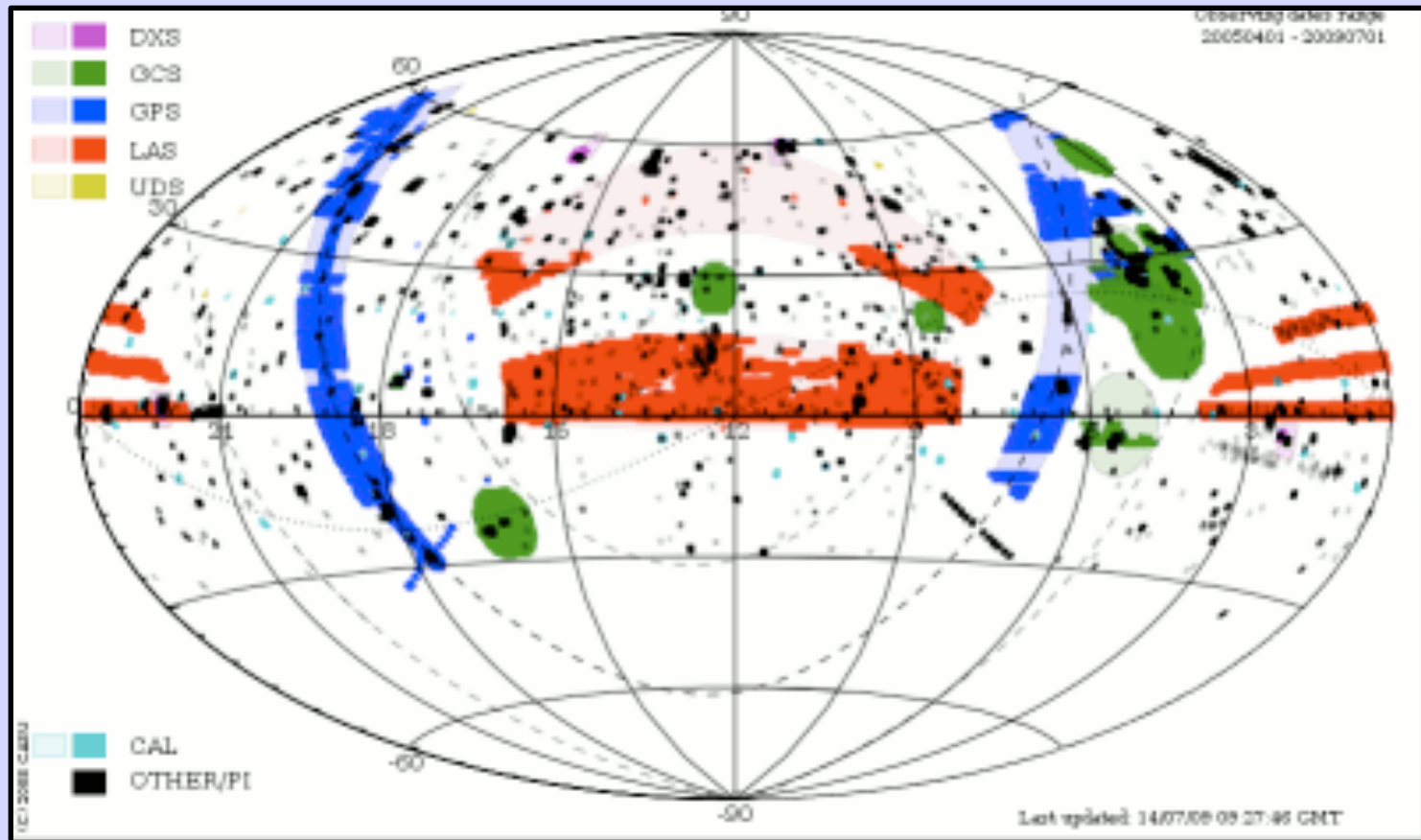
Status

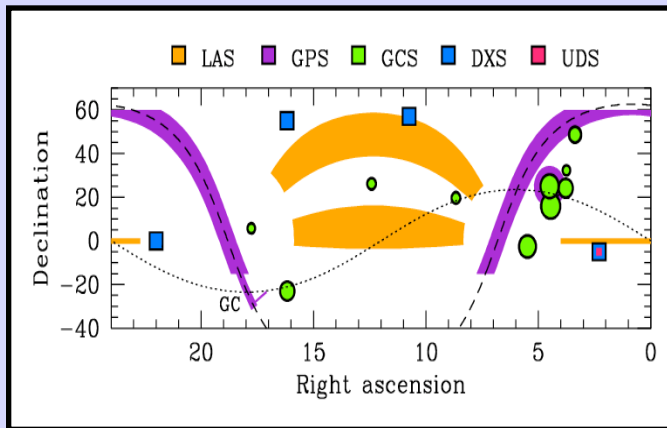


2001 proposed

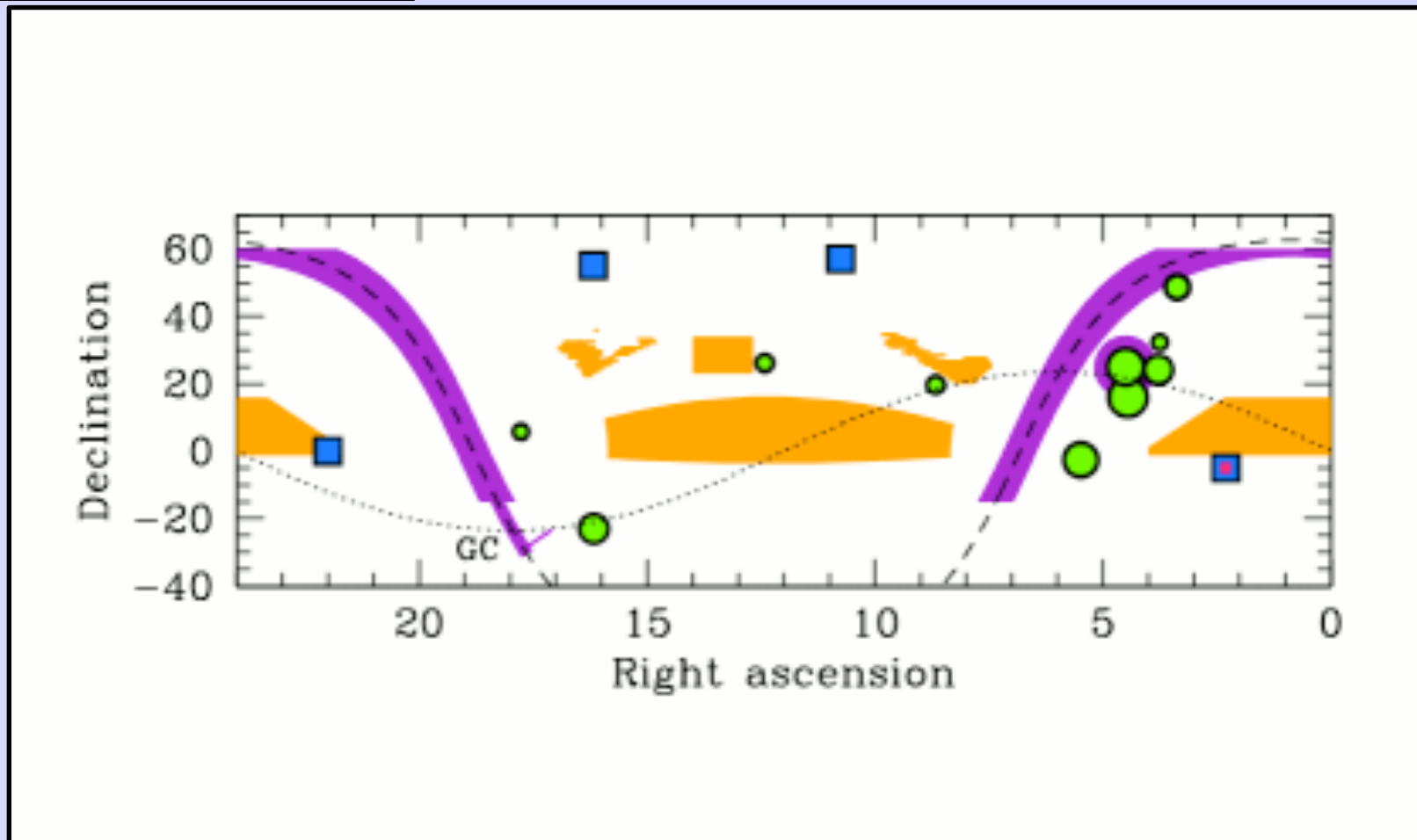


2009 observed





2012 proposed
(probably...)



Releases

- Europe World area any filter UDS depth
- DR1 Jul 2006 Jan 2008 1238 sq.deg. K=21.5
- DR2 Mar 2007 Sep 2008 1857 sq.deg. K=21.5
- DR3 Dec 2007 Jun 2009 3326 sq.deg. K=21.8
- DR4 Jul 2008 *Jan 2010* 3832 sq.deg. K=22.0
- DR5 Apr 2009 *Oct 2010* ~4600 sq.deg. K=22.2
- ... about every nine months thereafter

Publications

Survey	Start Date	N(+34m)	N(+52m)
UKIDSS	May 2005	39	107
2MASS	Jun 1997	30	100
SDSS	Sep 1998	42	101

UKIDSS versus time

2006	7
2007	24
2008	35
2009	41 ==> 55



UKIRT++

UKIDSS ecosystem

- Build Instrument
 - ATC
- Operate Telescope
 - JAC
- Design and implement programme
 - UKIDSS consortium
- Process and distribute data
 - CASU and WFAU

UKIDSS accretion

Began as
small band
of fools

A proposal for a large public survey programme
using the UKIRT Wide Field Camera

Submitted by

The UKIDSS Consortium

P.I. Andy Lawrence (IfA Edinburgh)

Andy Adamson, Omar Almaini, Richard Bower, Malcolm Bremer, Mark Casali, Phil Charles, Malcolm Coe, Gavin Dalton, Jon Davies, Chris Davis, Paul Dobbie, Jim Dunlop, Steve Eales, Alastair Edge, Tim Gledhill, Katherine Gunn, Nigel Hambly, Paul Hewett, Tadashi Hirayama, Melvin Hoare, Simon Hodgkin, Mike Irwin, Rob Ivison, Phil James, Richard Jameson, Laurence Jones, Sandy Leggett, Jon Loveday, Phil Lucas, Bob Mann, Keith Mason, Pierre Maxted, Ian McHardy, Richard McMahon, Toshinori Maihara, Tom Marsh, Leonidas Moustakas, Tadashi Nakajima, Paul O'Brien, Sadanori Okamura, Koji Ohta, Seb Oliver, Clive Page, Matt Page, John Peacock, Steve Phillipps, Quentin Parker, Will Saunders, Marc Seigar, Kazuhiro Sekiguchi, Steve Serjeant, Tom Shanks, Ian Smail, Will Sutherland, Motohide Tamuara, Munetaka Ueno, Martin Ward, Steve Warren, Mike Watson, Pete Wheatley, Peredur Williams

March 2001

THE UK INFRA-RED DEEP SKY SURVEY (UKIDSS)

A PROPOSED LARGE PUBLIC SURVEY WITH THE UKIRT-WIDE FIELD FACILITY

An information paper for the GBFC Sept 22nd 1998.

Prepared by Andy Lawrence (IfA Edinburgh) with input from Andy Adamson (proto-JAC), Tim Hawarden (JAC), John Peacock (IfA), Will Saunders (IfA), Nigel Hambly (proto-IfA), Mark Casali (ATC). The proposal is at this point from the individuals concerned, and isn't necessarily the policy of their employing organisations.

1. INTRODUCTION

The science case for the UKIRT wide field facility falls into three overlapping areas. First, a wide range of problems can be attacked in traditional common-user open-time application mode (i.e. in PATT time). Second, there is a recognised need for Gemini precursor observations and support work. Finally however it gives us an opportunity to perform a large and ambitious public survey. Such a communal survey would (a) be an exciting and world-leading science project in its own right, (b) provide much of the Gemini precursor needs, and a launching point for more detailed UKIRT programmes, and (c) be a cost-effective way to run UKIRT.

Followed by AO for
others to join consortium

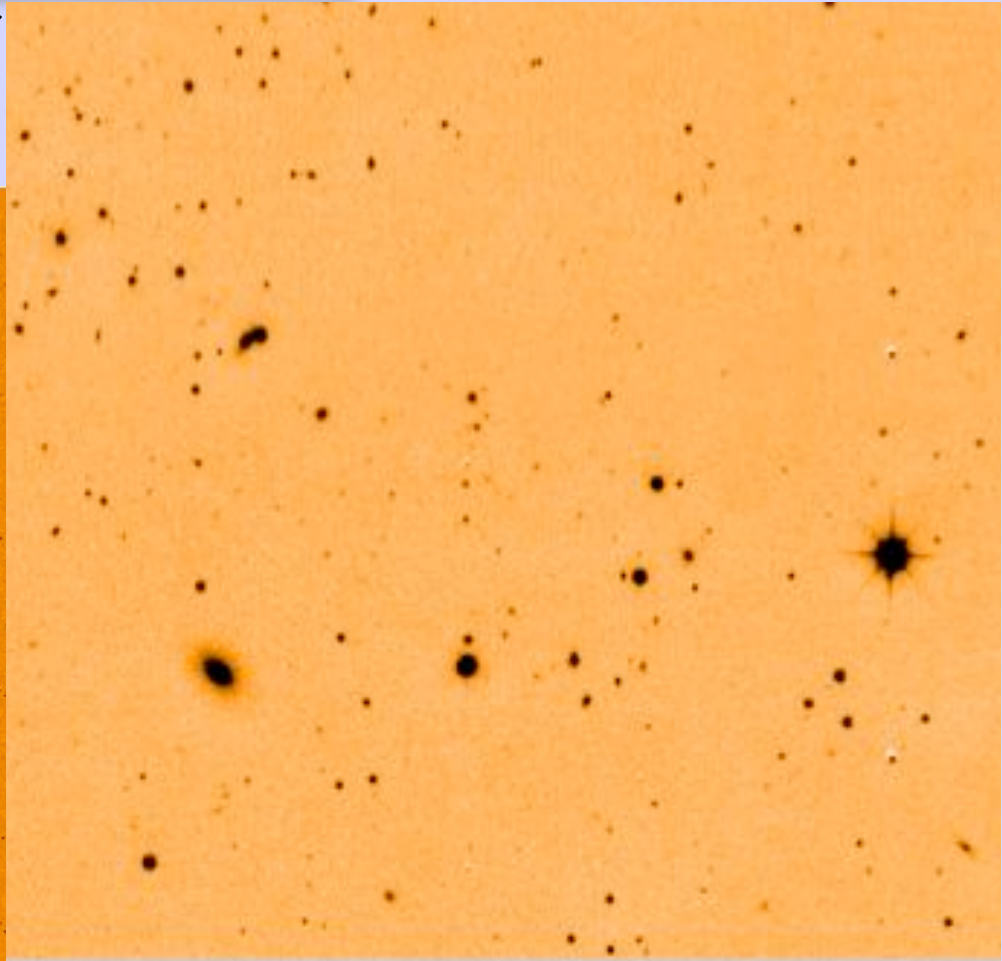
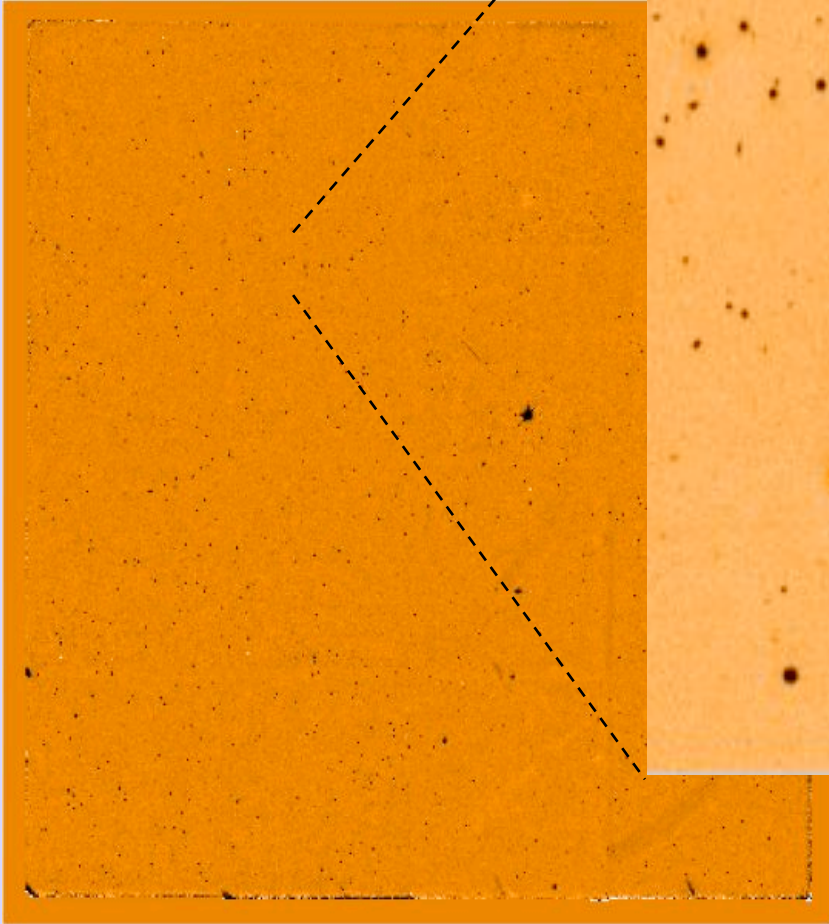
Much larger consortium for
2001 proposal

Expanded again on ESO
accession

Last count 130

scary amounts of data

3×10^8 pixels every few minutes



Requires science-ready archive
to do the science

- [see also GPS zoomable mosaic](#)

Archive use

[Home](#) | [Overview](#) | [Browser](#) | [Access](#) | [Login](#) | [Cookbook](#) | [nonSurvey](#) | 

WFCAM
Science Archive

Status: Logged in as - [User:andylawrence](#) [Community:roe.ac.uk](#)

WSA - SQL Query menu form

This forms allows you to submit an SQL query to the WSA database ([notes and tips](#)).

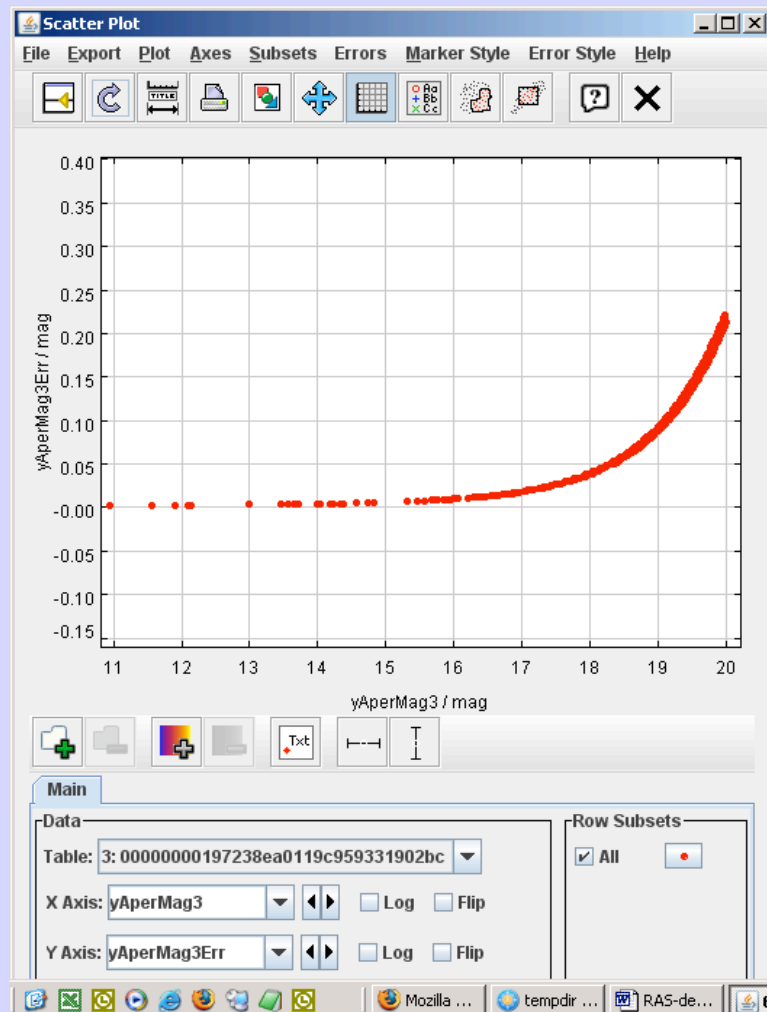
SQL statement:

```
select
sourceID,ra,dec,yAperMag3,j_1AperMag3,hAperMag3,kAperMag3,YAPERMag3
- J_1APERMag3
from ukidsdriplus..lasSource
where ra > 355.0 and
ra < 355.8 and
dec > 0.00 and
dec < 0.06 and
yAperMag3 < 17 and
YAPERMag3 - J_1APERMag3 < -0.2
```

Email Address: the results of long running queries will be sent by email.

890 registered users
(427 active users)

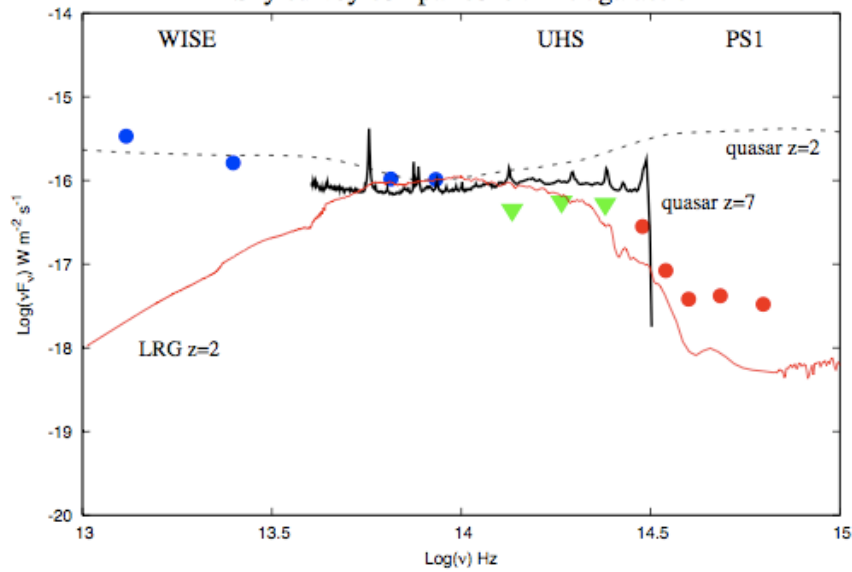
805,00 queries run by users
13.5 billion rows downloaded



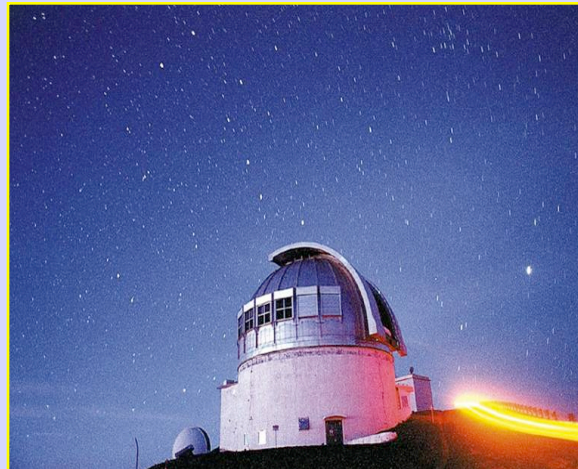
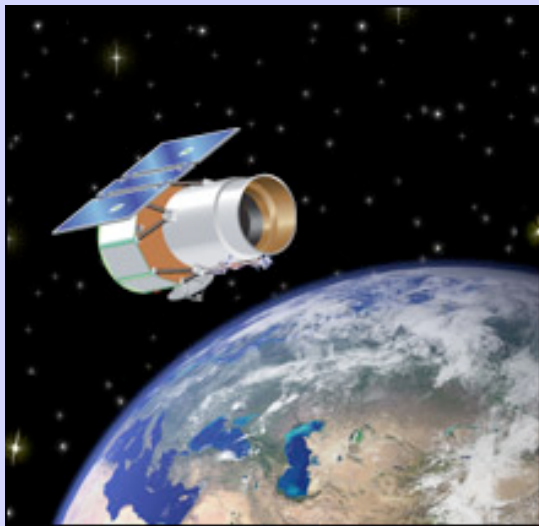
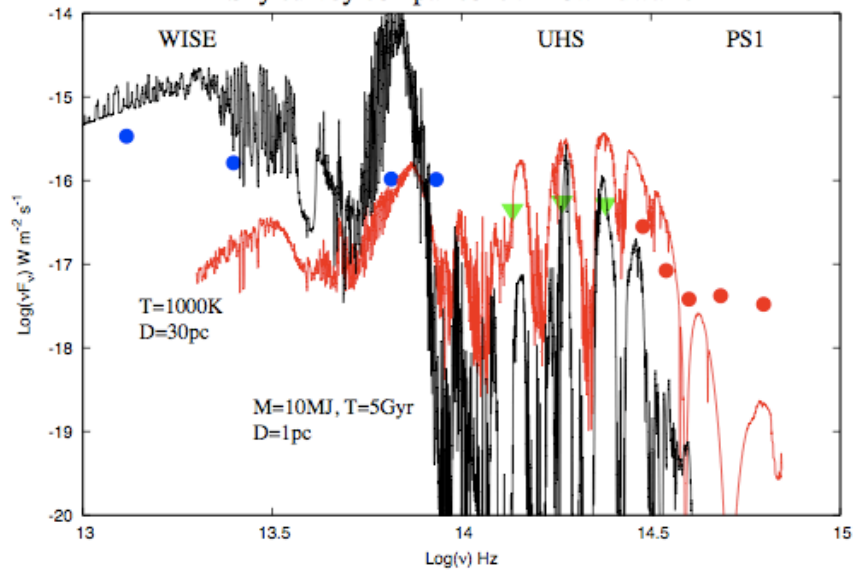
A dense field of stars in various colors (red, orange, yellow, white, blue) with a yellow box containing the word 'Future' in the center.

Future

Sky survey comparisons : Extragalactic



Sky survey comparisons : Brown dwarfs



Proposal to UKIRT Board The UKIRT Hemisphere Survey (UHS)

A Lawrence
University of Edinburgh,
UKIDSS Consortium PI
Nov 3 2006

