An analysis of UKIDSS publications

Steve Warren Imperial College London

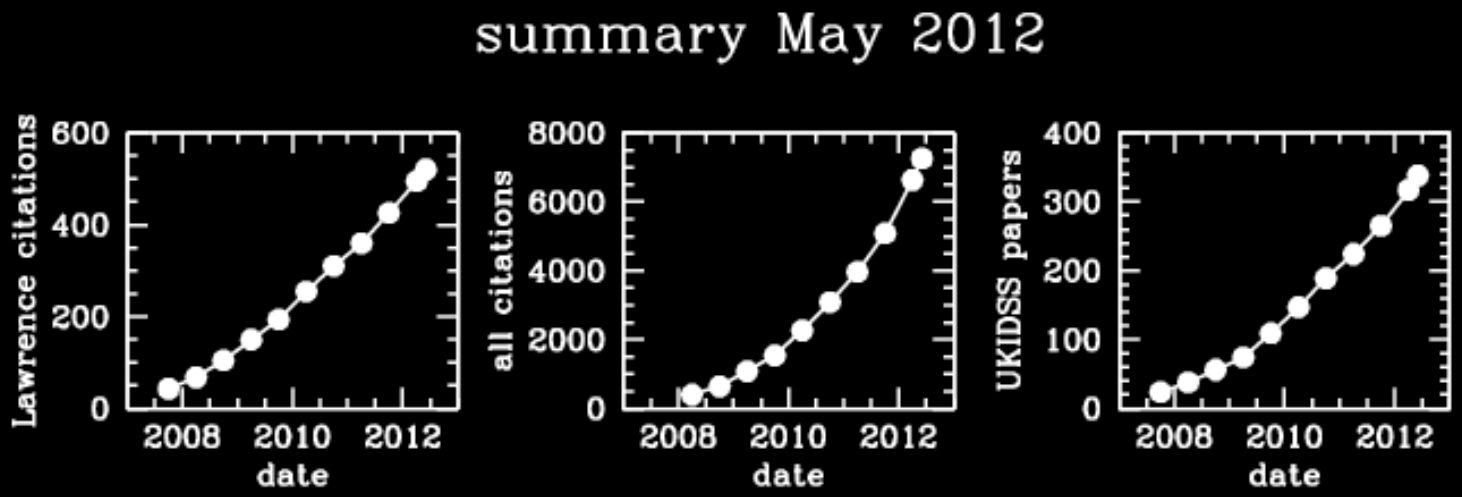
with help from Daniel Mortlock

How papers are selected

- Science results derived in whole or in part from UKIDSS data directly accessed from the archive (later divided by survey)
- Science results from primary follow-up observations in a programme that is identifiable as a UKIDSS programme (e.g. Spitzer obs of coolest brown dwarfs) (later divided by survey)

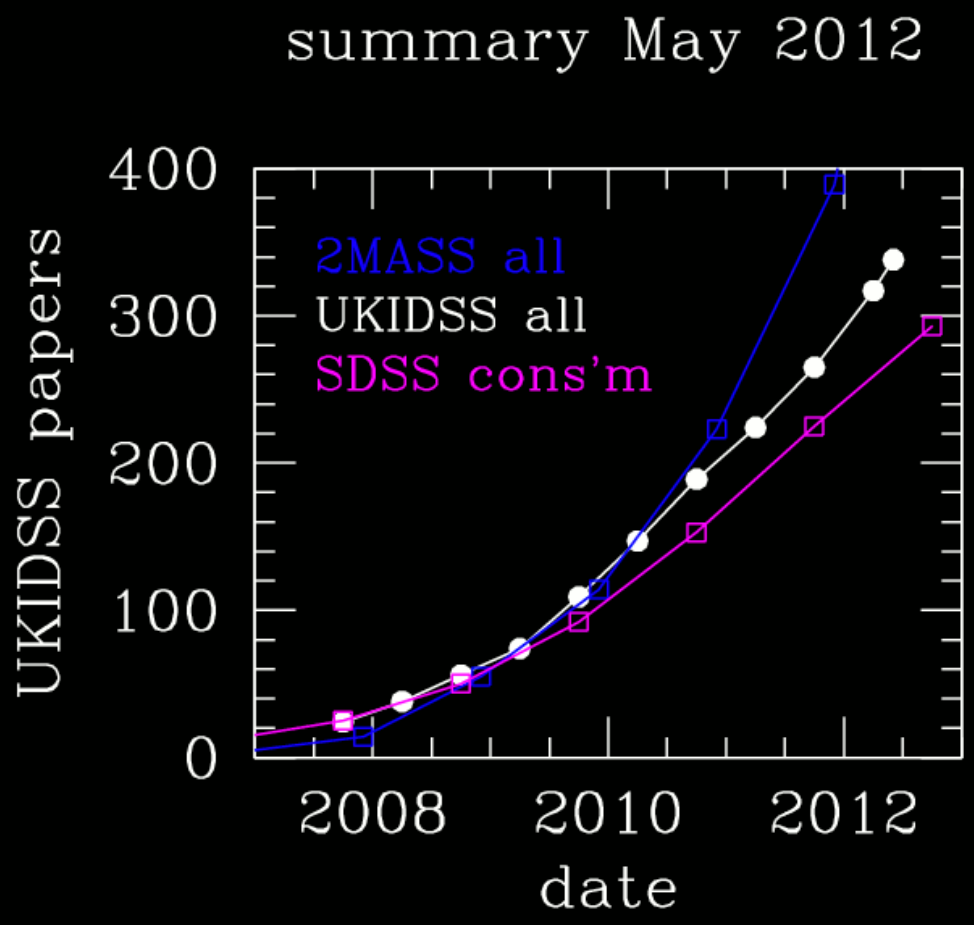
- Papers describing the survey (e.g. calibration, archive, data releases) (later classed general)
- Feasibility study of science that could be achieved using UKIDSS data (e.g. Deacon and Hambly) (later classed general)

Current status (end May 2012)



- Census date 28 May 2012
- Lawrence et al. 520 citations
- Total citations 7251
- Total papers 338
- h-index 41
- 1611 total authors
- 237 first authors

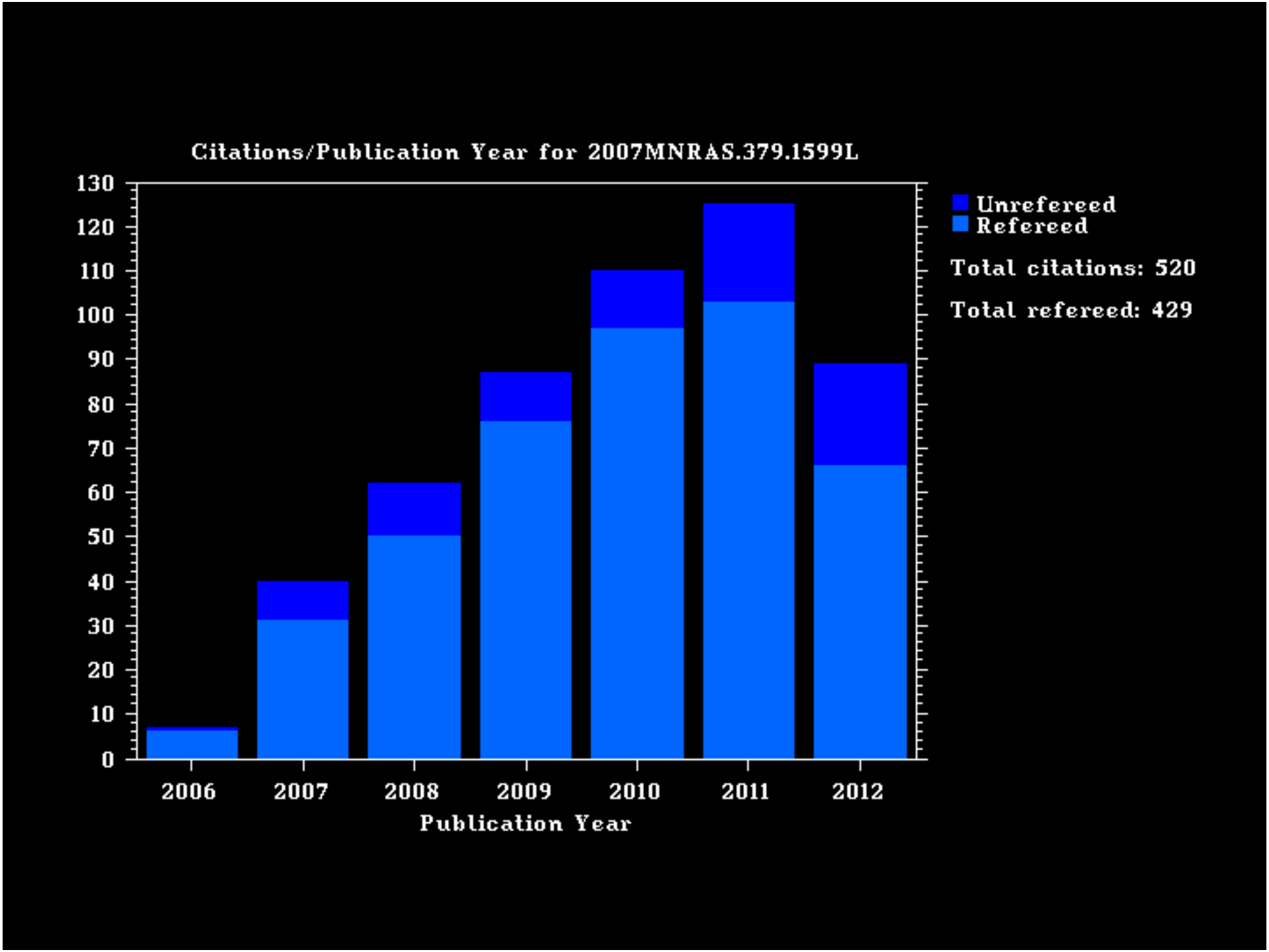
Comparison 2MASS, SDSS



Survey Olympic medals

- Bronze
  - Awarded for 10,000 citations
  - Currently 7251
  - Not there yet

- Silver
  - Main survey paper reaching 1,000 citations
  - Currently 520
  - York 3325/750 (SDSS), Skrutskie 2487/0 (2MASS)
  - Should just get there
- Gold (2MASS, SDSS)
  - h-index of 100
  - Currently 41
  - Won’t get there


Citations/Publication Year for 2007MNRAS.379.1599L
130
120
110
100
90
80
70
60
50
40
30
20
10
0
2006
2007
2008
2009
2010
2011
2012
Publication Year
Unrefereed
Refereed
Total citations: 520
Total refereed: 429

Survey comparisons

		planned		legacy		total	
	papers	citations	papers	citations	papers	citations	citations /papers
general	9	1394	1	11	10	1405	
UDS	23	709	37	935	60	1644	27.4
LAS	35	857	91	1174	126	2031	16.1
DXS	4	66	46	1165	50	1231	24.6
GCS	14	242	19	162	33	404	12.2
GPS	10	195	49	341	59	536	9.1
total	95	3463	243	3788	338	7251	21.5

Survey comparisons

- All surveys have been productive, LAS the most so
- UDS and DXS have high citations per paper
- Legacy science has produced >2x as many papers as planned UKIDSS science
- Planned science has higher citations per paper than legacy science

UKIDSS publications winners

- Most citations any paper: 520
- Lawrence et al. 2005
- Most citations science paper: 206
- Perez-Gonzales et al. 2008
- Most citations/yr science paper: 84
- Mortlock et al. 2011
- Most UKIDSS citations individual: 1849
- Seb Foucaud
- Most UKIDSS papers: 35
- Jim Dunlop
- Most UKIDSS first-author papers: 14
- Nicolas Lodieu

The Astrophysical Journal, 675:234–261, 2008 March 1

THE STELLAR MASS ASSEMBLY OF GALAXIES FROM $z = 0$ TO $z = 4$: ANALYSIS OF A SAMPLE SELECTED IN THE REST-FRAME NEAR-INFRARED WITH *SPITZER*

Pablo G. Pérez-González,[1,2] George H. Rieke,[3] Victor Villar,[1] Guillermo Barro,[1]
Myra Blaylock,[3] Eiichi Egami,[3] Jesús Gallego,[1] Armando Gil de Paz,[1]
Sergio Pascual,[1] Jaime Zamorano,[1] and Jennifer L. Donley[3]

Received 2007 March 28; accepted 2007 September 10

ABSTRACT

Using a sample of ~28,000 sources selected at 3.6–4.5 μm with *Spitzer* observations of the Hubble Deep Field North, the Chandra Deep Field South, and the Lockman Hole (surveyed area ~664 arcmin^2), we study the evolution of the stellar mass content of the universe at $0 < z < 4$. We calculate stellar masses and photometric redshifts, based on ~2000 templates built with stellar population and dust emission models fitting the ultraviolet to mid-infrared spectral energy distributions of galaxies with spectroscopic redshifts. We estimate stellar mass functions for different redshift intervals. We find that 50% of the local stellar mass density was assembled at $0 < z < 1$ (average star formation rate [SFR] 0.048 $M_\odot$ yr^{-1} Mpc^{-3}), and at least another 40% at $1 < z < 4$ (average SFR 0.074 $M_\odot$ yr^{-1} Mpc^{-3}). Our results confirm and quantify the "downsizing" scenario of galaxy formation. The most massive galaxies ($M > 10^{12.0}\ M_\odot$) assembled the bulk of their stellar content rapidly (in 1–2 Gyr) beyond $z \sim 3$ in very intense star formation