An analysis of UKIDSS publications

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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

summary May 2012

2MASS all
UKIDSS all
SDSS cons’m
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
### Survey comparisons

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

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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 arcmin²), 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⊙ yr⁻¹ Mpc⁻³), and at least another 40% at 1 < z < 4 (average SFR 0.074 M⊙ yr⁻¹ Mpc⁻³). Our results confirm and quantify the “downsizing” scenario of galaxy formation. The most massive galaxies (M > 10¹².⁰ M⊙) assembled the bulk of their stellar content rapidly (in 1–2 Gyr) beyond z ~ 3 in very intense star formation