

# *The UKIRT Hemisphere Survey*

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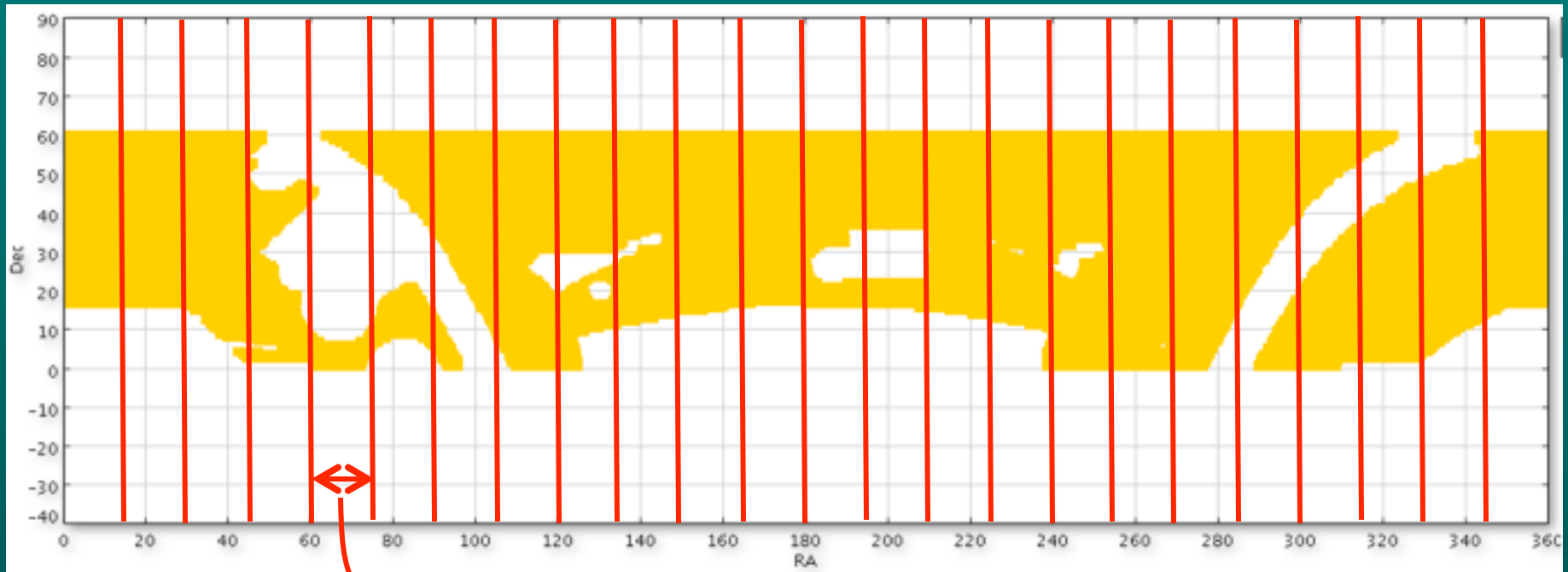
*The University of Nottingham*

- Survey Design
- Implementation
- Status

# Survey Design

## Geometry

- Nominal area: RA 0h - 24h, Dec 0° - 60° = 17,900 deg<sup>2</sup>
- Avoiding LAS, GPS, GCS leaves ~12,000 deg<sup>2</sup>

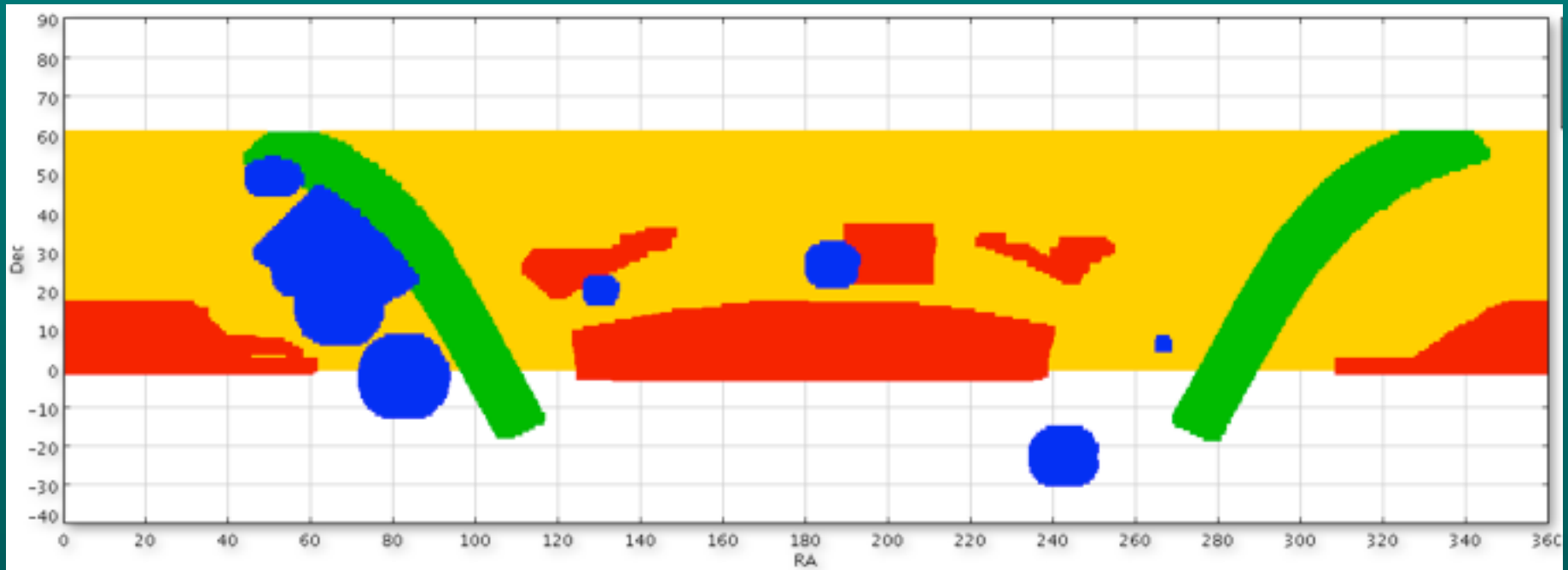


OMP projects 1 hour wide

# Survey Design

## Geometry

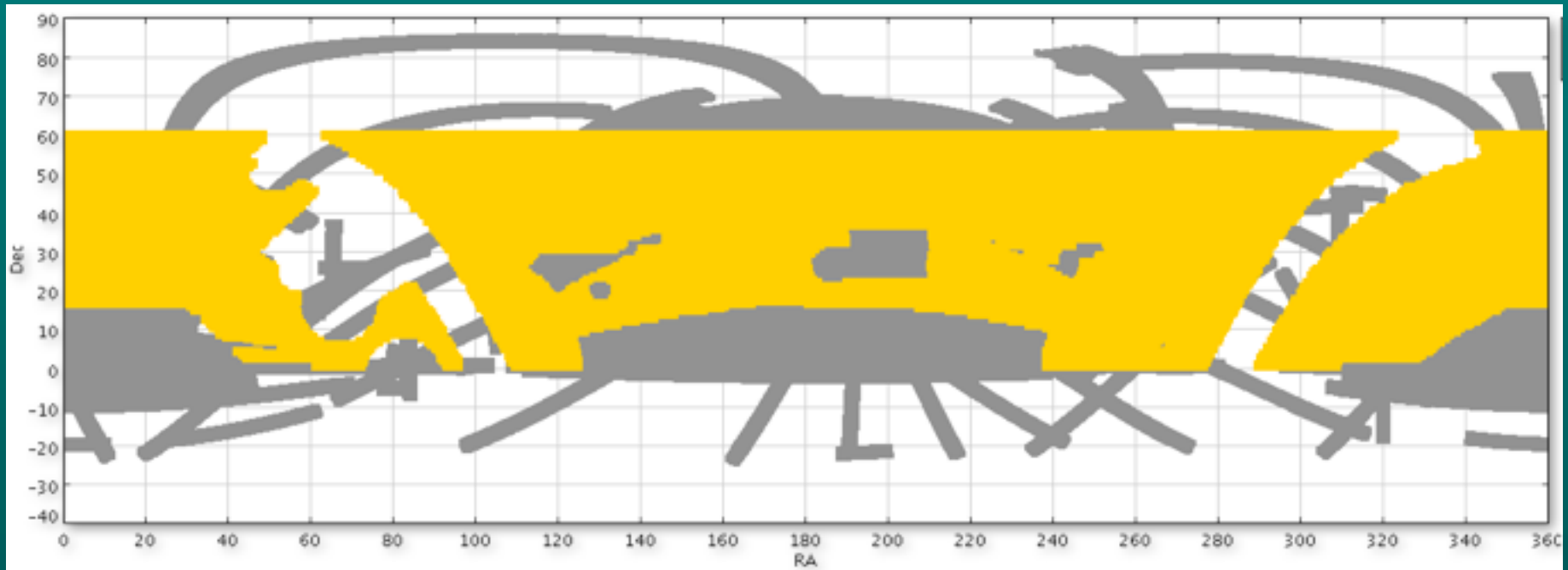
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# Survey Design

## Geometry

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# Survey Design

## Observations:

- J band, 40s exposures (19.6 mag, Vega,  $5\sigma$  pt. src)
- K band, 40s exposures (18.2 mag, Vega,  $5\sigma$  pt. src)

## Plan:

- J band obs spread over 15 months from July 2012 to September 2013
- 12,000 deg<sup>2</sup> will take 218 nights (assuming 55 deg<sup>2</sup>/night allowing for weather, qc rejection rate and observing overheads)
- Prioritisation: probably Dec $>10$  (where VISTA won't survey) and SDSS

# Survey Design

## **Guide stars**

### UKIDSS method:

- Initial selection from HST GSC2
- Verification by SDSS

### UHS method:

- UKIDSS method + PanSTARRs or 2MASS+WISE
- exclusively PanSTARRs for verification

Bad guides replaced with alternatives or leave obs as unguided for execution during very good weather conditions.

# Survey Implementation

## Pipeline processing

- Raw data processed by CASU
- Reduced images, stacks & catalogues sent to Edinburgh

## Archive ingest

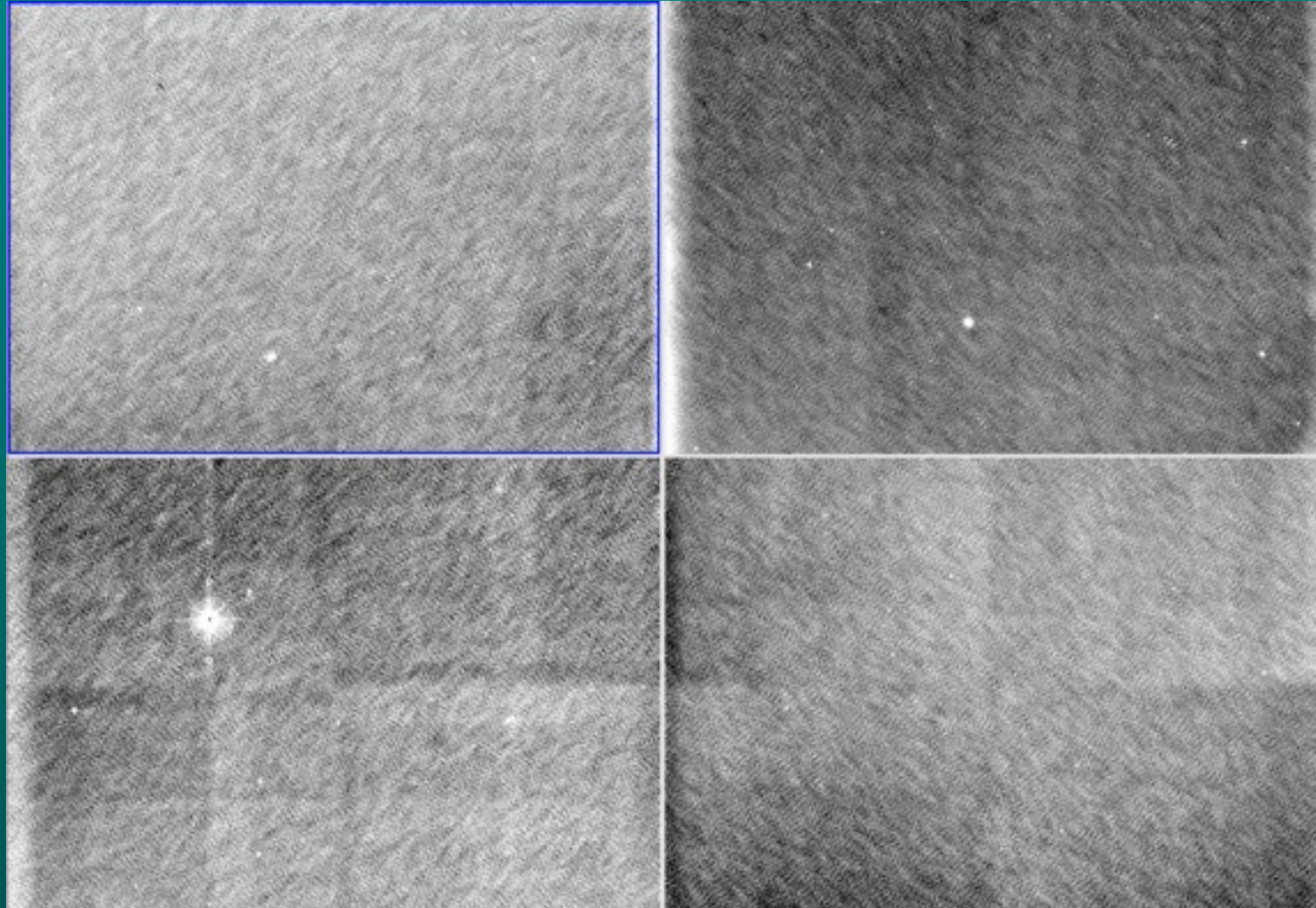
- Processed data ingested by WSA
- Incremental quality control

## Feedback

- Failed obs are reinstated whilst still observable by UKIRT

# Survey Status

'First light' image taken on 19<sup>th</sup> May 2012





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# Survey Status

## Survey timescales

- ~70 deg<sup>2</sup> taken May 19<sup>th</sup> – 21<sup>st</sup> in survey test field
- UHS starts in full at end of June

## MSB generation

- Pointings generated for each project
- To do list
  - guide star verification
  - prioritisation of survey areas

## Data Release Policy

- TBD