

The UKIRT Hemisphere Survey

Simon Dye

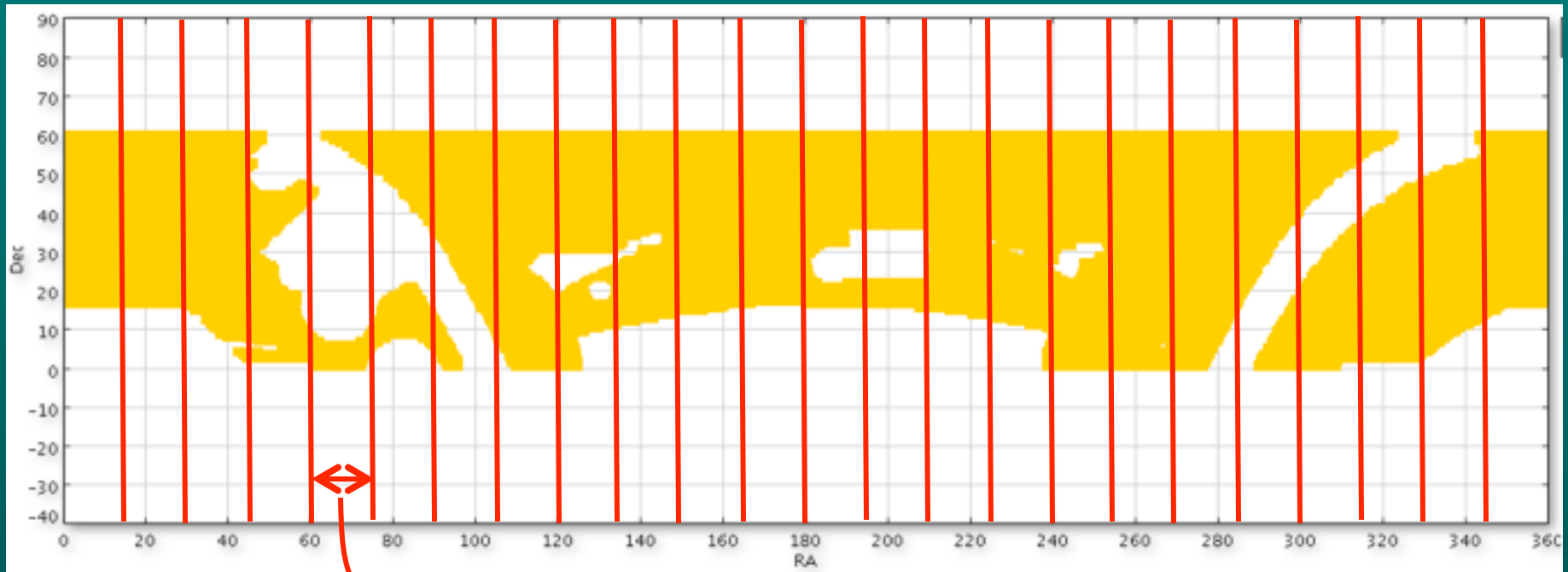
The University of Nottingham

- Survey Design
- Implementation
- Status

Survey Design

Geometry

- Nominal area: RA 0h - 24h, Dec 0° - 60° = 17,900 deg²
- Avoiding LAS, GPS, GCS leaves ~12,000 deg²

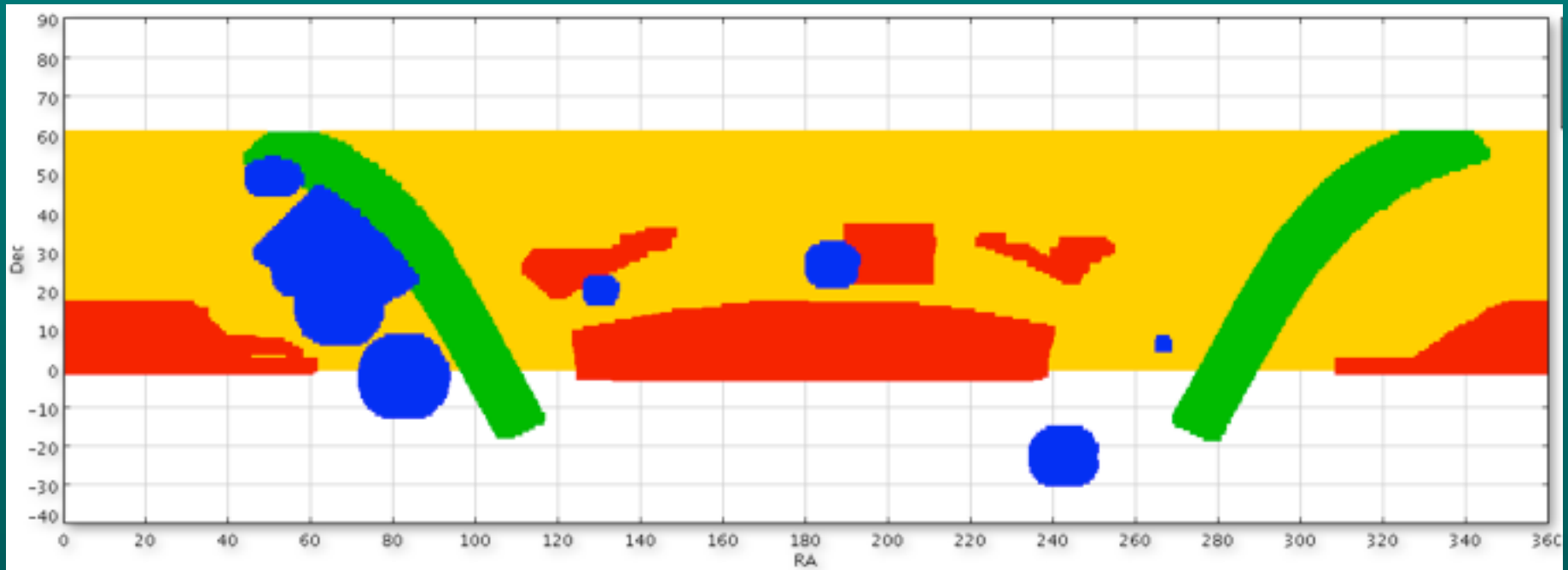


OMP projects 1 hour wide

Survey Design

Geometry

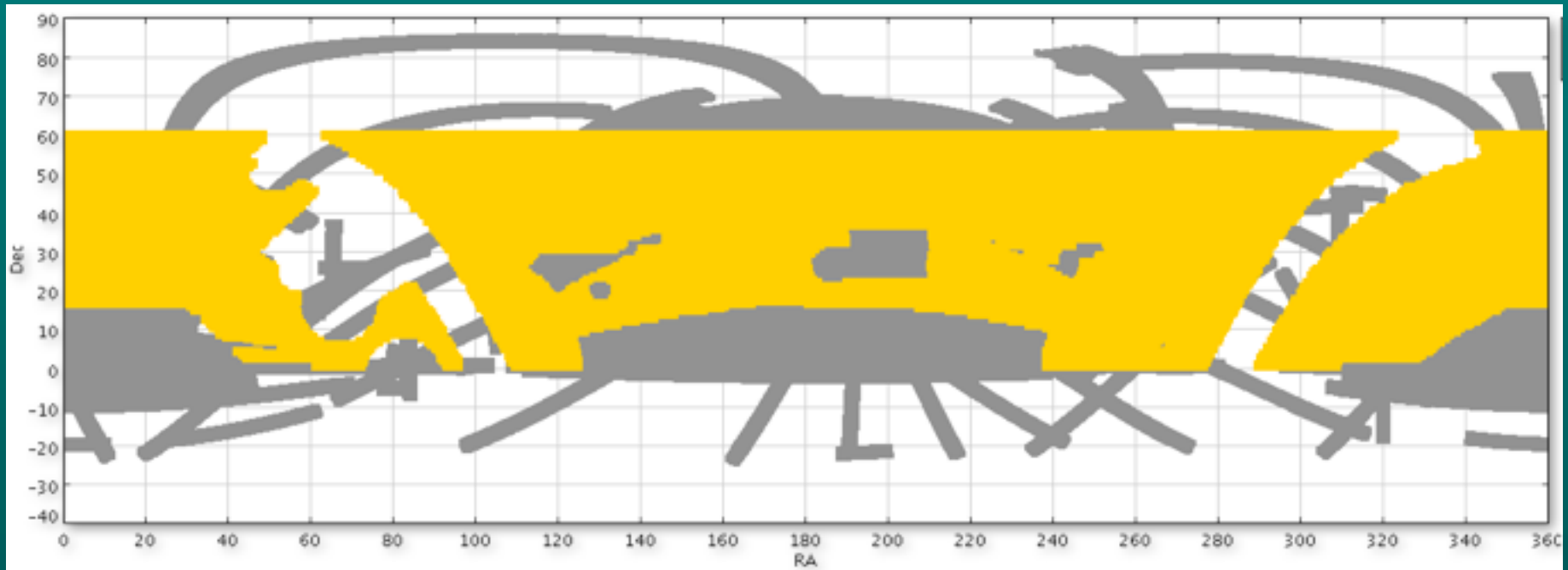
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Survey Design

Geometry

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Survey Design

Observations:

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

Plan:

- J band obs spread over 15 months from July 2012 to September 2013
- 12,000 deg² will take 218 nights (assuming 55 deg²/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

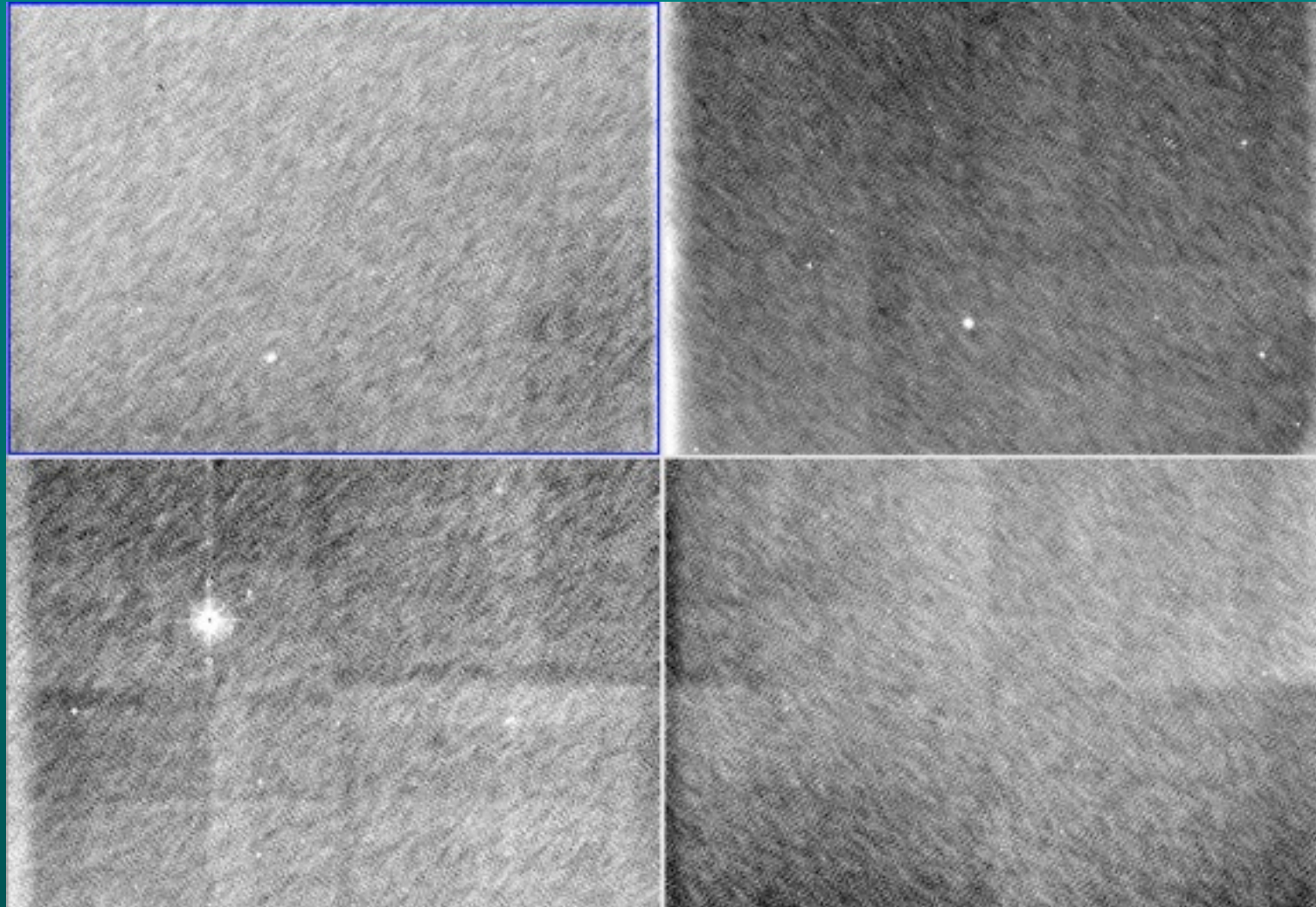
- Processed data ingested by WSA
- Incremental quality control

Feedback

- Failed obs are reinstated whilst still observable by UKIRT

Survey Status

'First light' image taken on 19th May 2012



Survey Status

'First light' image taken on 19th May 2012



Survey Status

Survey timescales

- ~70 deg² taken May 19th – 21st 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