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# Survey Scheduling Project (Deep Surveys)

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ESO

# VISTA Survey of the Magellanic Cloud System (PI Cioni)

- ▶ Goal: Study the evolution of stellar population and history of galaxy interaction
- ▶ Outline: Observe LMC, SMC, Bridge, and Stream in  $YJK_s$ . Total area 184 deg<sup>2</sup>.
- ▶ Constraints: Moon: any, transparency: THN, seeing: 1''0
- ▶ Strategy:
  - ▶ Concatenation: in  $YJK_s$
  - ▶ Time link: 15 different epochs, 15 days interval between each epoch, 5 days interval validity for each OB  
 $2 \times Y + 2 \times J + 11 \times K_s$
- ▶ First year: Only 100 deg<sup>2</sup> on LMC,  $10 \times 10$  deg<sup>2</sup> rectangle centered on 05:23:34, -69:45:22.

# VMC Compromises, Problems, etc.

Agreed with PI that

- ▶ the first  $YJK_s$  imaging is not part of the time link but a separate scheduling container;
- ▶ the concatenation has a higher priority than the time link, so that the concatenation OBs are executed first.

Limitations:

- ▶ Mock OBs have total execution time as DIT.
- ▶ OBs created with the policy 1 filter/OB. If multiple filters are allowed per VISTA OB, the concatenation could be a 1 h OB (pending correct assessment of overheads).

# VISTA Deep Extragalactic Observations (VIDEO) (PI Jarvis)

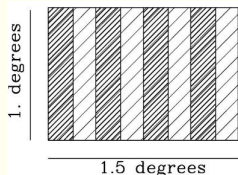
- ▶ Goal: Galaxy and structure evolution out to  $z = 4$ .
- ▶ Overview:  $2 \times 4.5 \text{ deg}^2 + 1 \times 3 \text{ deg}^2$  fields in **ZYJHK<sub>s</sub>**
  - ▶ XMM-LSS (02:18:00, -05:00:00), high priority
  - ▶ ELAIS-S1 (00:34:00, -43:00:00), medium priority
  - ▶ CDF-S (03:22:00, -27:00:00), low priority
- ▶ **Z** (dark), **J** (grey), and **K<sub>s</sub>** (bright) have higher priority than **H** (bright) and **Y** (grey). Implemented via different OB priorities in OB groups.
- ▶ Seeing:  $0''.8$ , transparency: THN
- ▶ First year: Finish one tile before moving to the next, i.e., only one tile in each field will be observed in year 1.

## VIDEO Compromises, Problems, etc.

- ▶ Priorities between the different fields were not implemented.
- ▶ Position angles of the fields were estimated from the plots in the SMP.
- ▶ Not enough guide stars were found using the USNO, works with 2MASS (**not a good choice**).

# Ultra-VISTA (PI Dunlop)

- ▶ Goal: Study the Universe between  $z = 6.5$  and  $z = 10$
- ▶  $1 \times 1.5 \text{ deg}^2$  on COSMOS field in YJHK<sub>s</sub> and NB1185
- ▶ 3 vertical offsets will give 4 ultra-deep columns, 1 horizontal offset will fill the field



- ▶ Each offset is one single pawprint 1 h OB
- ▶ Constraints: Y and NB: dark, others: any, seeing:  $0''.8$ , transparency: CLR
- ▶ First year: This survey only gains depth, not area. Ensure homogenous progress

## Ultra-VISTA Compromises, Problems, etc.

- ▶ Offset positions must be manually defined. Used only one position for mock phase 2.
- ▶ SMP asks for 30 point jitter (and special jitter pattern!) but but this is not possible in VISTA templates. Mock OBs have total execution time as DIT
- ▶ Narrow-band filter is currently not included in VISTA templates (**fixed**)
- ▶ P2PP lacks OB/scheduling container duplication without creating name conflicts (**fixed**)
- ▶ The SMP asks for concatenation blocks of all 3 vertical offset positions. This would exceed the time limitation. Used OB groups instead to ensure homogenous progress.

# Tutorial Session

Survey	Tutor
VVV & VPHAS+	Marina Rejkuba
VHS & VST ATLAS	Gaitee Hussain
VIKING & KIDS	Mark Neeser
VMC	Magda Arnaboldi
VIDEO	Wolfgang Hummel
UltraVISTA	Jörg Dietrich