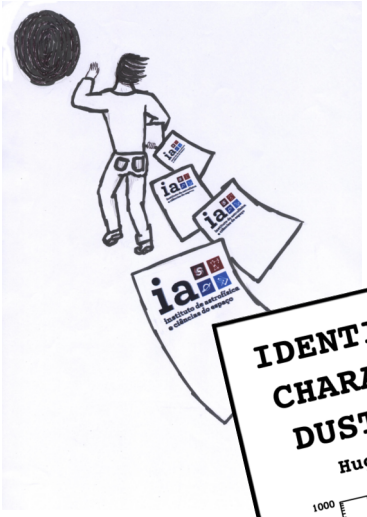
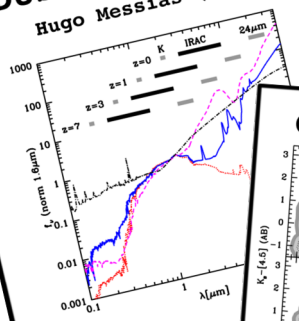


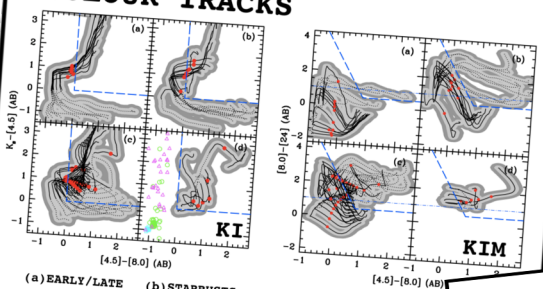
# IDENTIFYING AND CHARACTERISING DUSTY AGN @IR

Hugo Messias (IA)




José M. Afonso (IA)
Mara Salvato (MPE)
Bahram Mobasher (UCR)
Andrew M. Hopkins (AAO)

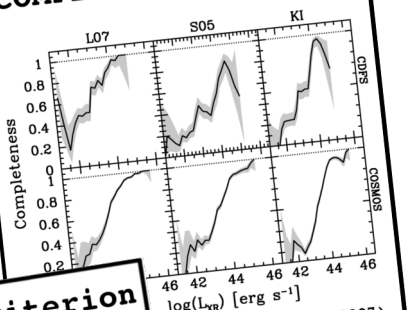
## COLOUR TRACKS




(a) EARLY/LATE (b) STARBUSTS (c) HYBRIDS (d) AGN

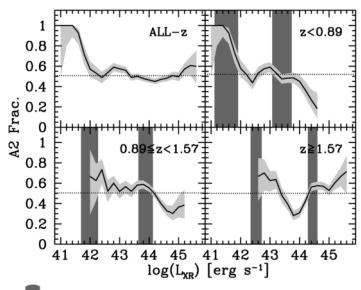
CRITERION 0<z<1 1<z<7 z=2.5 M/L/

## COMPLETENESS



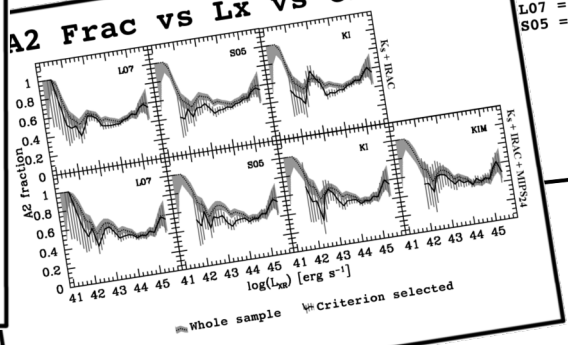

L07 = Lacy et al. (2007)
S05 = Stern et al. (2005)

## A2 Fraction vs Lx vs z



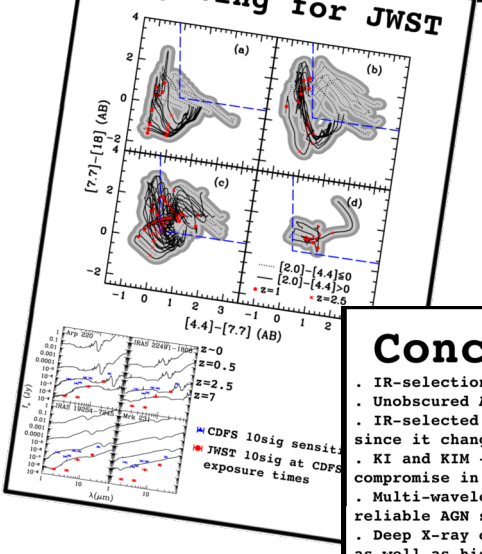

Survey completeness
0<log(Nh[1/cm2])<24
Average CDFS+COSMOS

## A2 Frac vs Lx vs Criterion

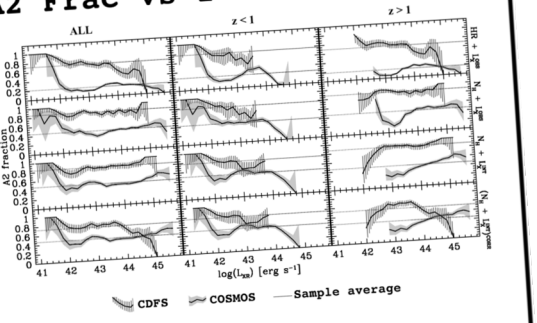



Whole sample
Criterion selected

## Preparing for JWST




## A2 Frac vs z vs obsc method




CDFS COSMOS Sample average

# Conclusions

. IR-selection - mostly luminosity-dependent;
. Unobscured AGN selection-bias - is marginal;
. IR-selected A2 frac - set by survey depth, since it changes with redshift and luminosity;
. KI and KIM - the best completeness-reliability-z compromise in the market;
. Multi-wavelength approach - ideal for a complete and reliable AGN selection;
. Deep X-ray data - key to recover low-luminosity AGN, as well as high-resolution IR data (e.g., JWST);
. Hard X-ray or wide-field IR-radio - key to recover the rare (highly-)obscured AGN population.

More information in:
Messias et al.(2012, ApJ, 754, 120)
Messias et al.(2014, A&A, 562, 144)