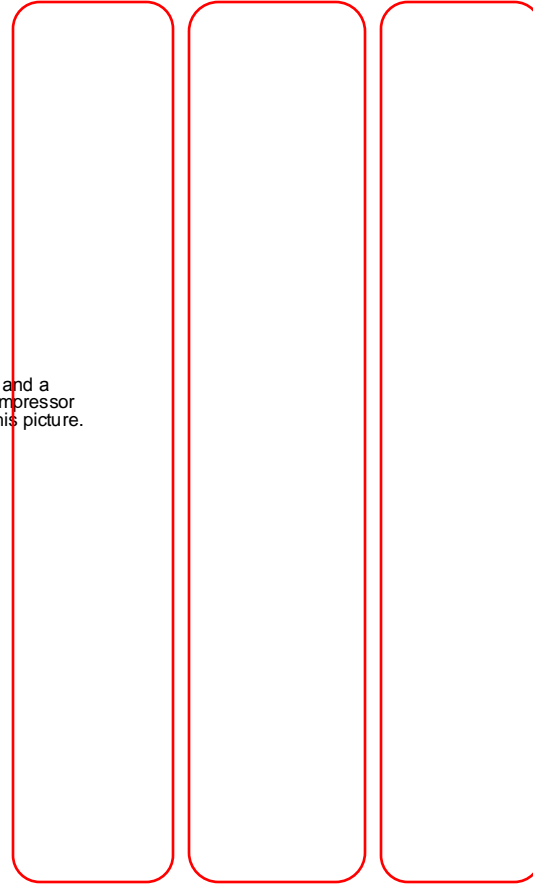


# Discussion on the multi- wavelength **ANALYSIS**

# Multi-wavelength data set

QuickTime™ and a  
TIFF (LZW) decompressor  
are needed to see this picture.



# Talks/presentations about multi-wavelength studies with/for HSC

- X-ray:
  - Iwasawa: obscured AGNs
  - Terashima: X-ray selection
  - Hashimoto: correlations of AGN properties with X-ray ones (incl. environmental ones)
- (M)IR:
  - Oyabu: Synergy with AKARI/WISE data, rare AGN population.
  - Oi: optical-MIR survey at NEP field.
  - Fujii: FMOS study of IRAC selected obscured AGN candidates.
- Radio:
  - Hashimoto: correlations of AGN properties with radio ones (incl. environment)
  - Imase: Synergy with radio surveys (especially with FIRST)

# Parameter space for discussion

- Matching in
  - sensitivity
    - Wide/deep/u-deep vs. X/MIR/radio surveys
  - Redshift
    - Wide/deep/u-deep vs. X/MIR/radio surveys
- Sweetest (most unique) spot for HSC science?
  - Which layer/redshift range we should focus on more?
  - With which data set (X-ray or MIR or Radio or combinations of them)?
- 1st year science vs. full science
  - time line of HSC survey strategy
  - Vs. time line of availability of external catalogs.

- Conventional (bona-fide optically-selected QSOs) vs. various sub-types of AGN based on multi-wavelength studies.
  - Dust independent selection
  - Dust enshrouded QSO statistics
  - Radio loudness-dependent statistics
  - Essentially new types of AGN

- Synergy from theoretical side
  - Which multi-wavelength data vs. which science we can address.
    - Any comments from theorists?
    - Any requests for theorists?
- for environment study
  - Multi-wavelength data vs. optical one
  - Deep MIR-selected galaxies around QSOs?
    - Sensitivity issue?
    - Resolution issue?

# Selection techniques and types of AGN population

- Optical color/dropout/statistics vs.
  - MIR selection
  - X-ray selection
  - Radio selection
- In which redshift/luminosity range?
- Along which parameter space?
  - Evolution? Dust extinction? Intrinsic luminosity?

# Even other wavelength/tools

- ALMA:
  - Strategy for AGN science cases?
- Sub-mm
  - SCUBA2? AzTEC?
- Radio
  - LOFAR? JVLA? FIRST?



# Technical questions

- Any issues in catalog matching with external catalog?
  - miss-identification? Due to resolution mismatch (XMM)
  - Ways of photometry? Forced one preferred?
- Can we test/improve OIR selection techniques?
  - Improved photo-z? New realistic templates? Outlier suppression? New prior?
  - For color-color and statistical selection? Suppression of contaminants?
    - Dwarf stars? Low-z galaxies? LAEs?
  - Robust against variability?
  - How much can we improve quantitatively?
  - If we want, how should we proceed?
    - For 1st year science and more...

# Timescale of data availability?

- eROSITA: will launch in 2014. Nominal 4 year of all sky survey.
  - XLS: will finish 2013 April
  - WISE: final release done?
  - SERVE: what is the current status?
  - SPLASH: when???
- 
- For 1st year science and full science

# Als?

- [Need your inputs]