QSO IDENTIFICATION WITH BATC MULTIBAND DATA

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Research Goal

A new trial for identifying QSO with BATC multiband data

Traditional Methods

- Radio observation
  - Quasar was discovered through the optical identification of strong radio source, after that lots of radio-loud quasars are detected

- X-ray detection
  - Investigation of strong x-ray sources

- Optical identification
  - Selection of QSO candidates from color-color diagram and follow-up spectroscopic observations

My Selection Criterion

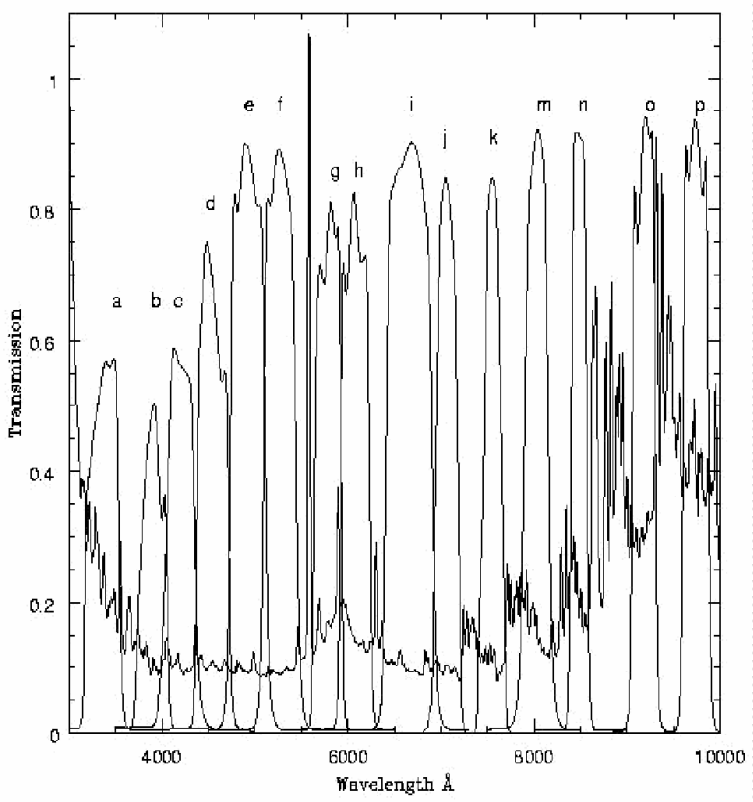
Spectral Energy Distribution

obtained from spectrophotometry

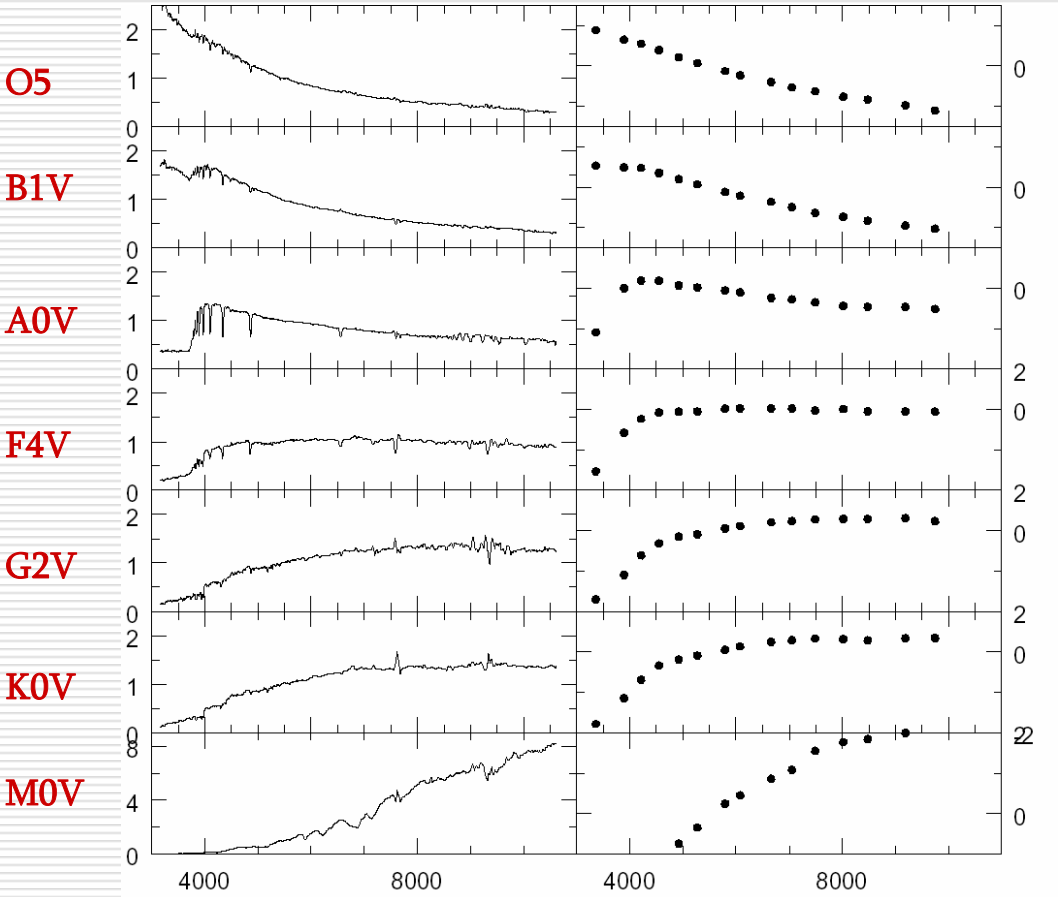
BATC Color Survey

- BATC(Beijing-Arizona-Taipei-Connecticut) color survey uses 15 intermediate-band filters.
- Filters are designed to avoid strong night sky emission lines
- Spectral coverage :

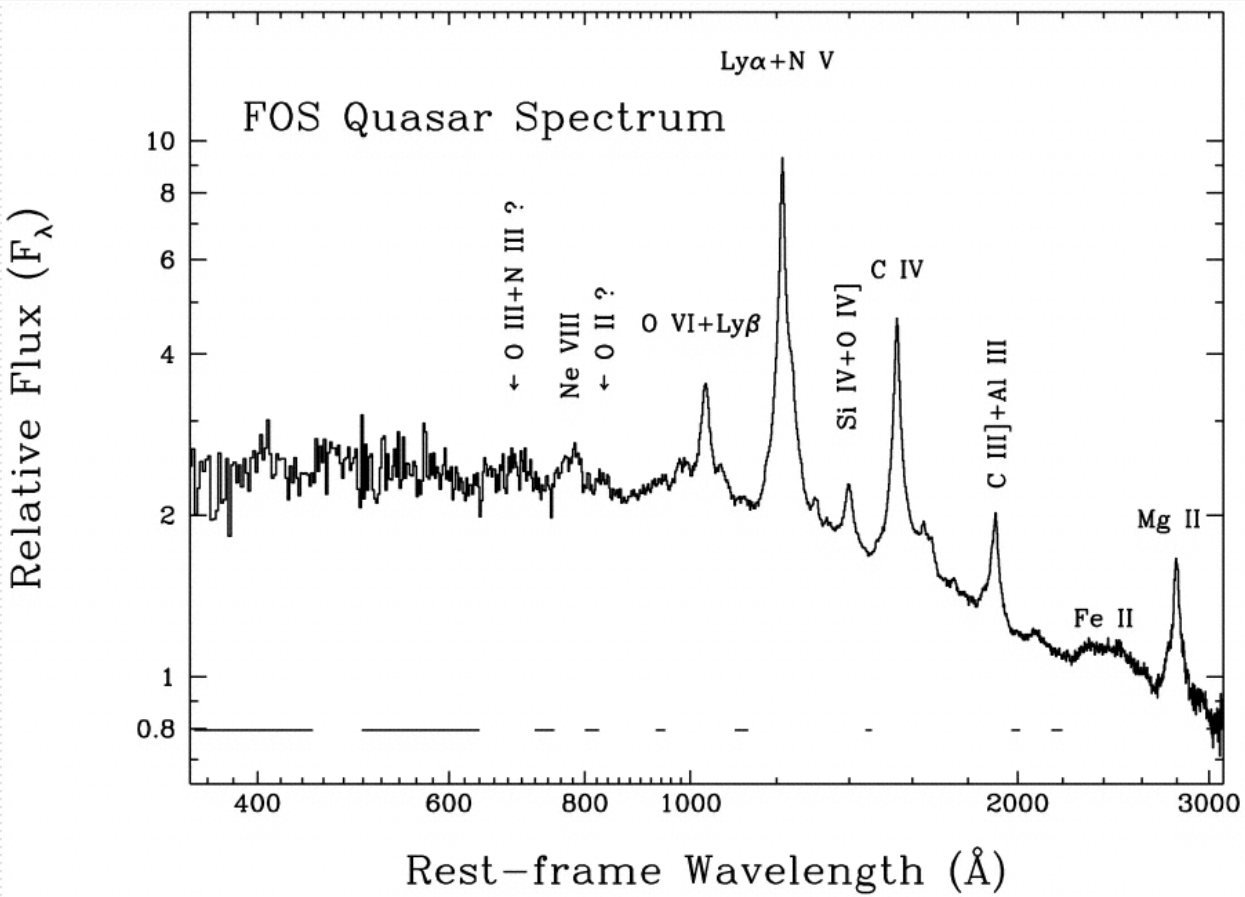
  3200Å ~ 9900Å
- FOV ~ 1˚x 1˚



Stellar SED from BATC System

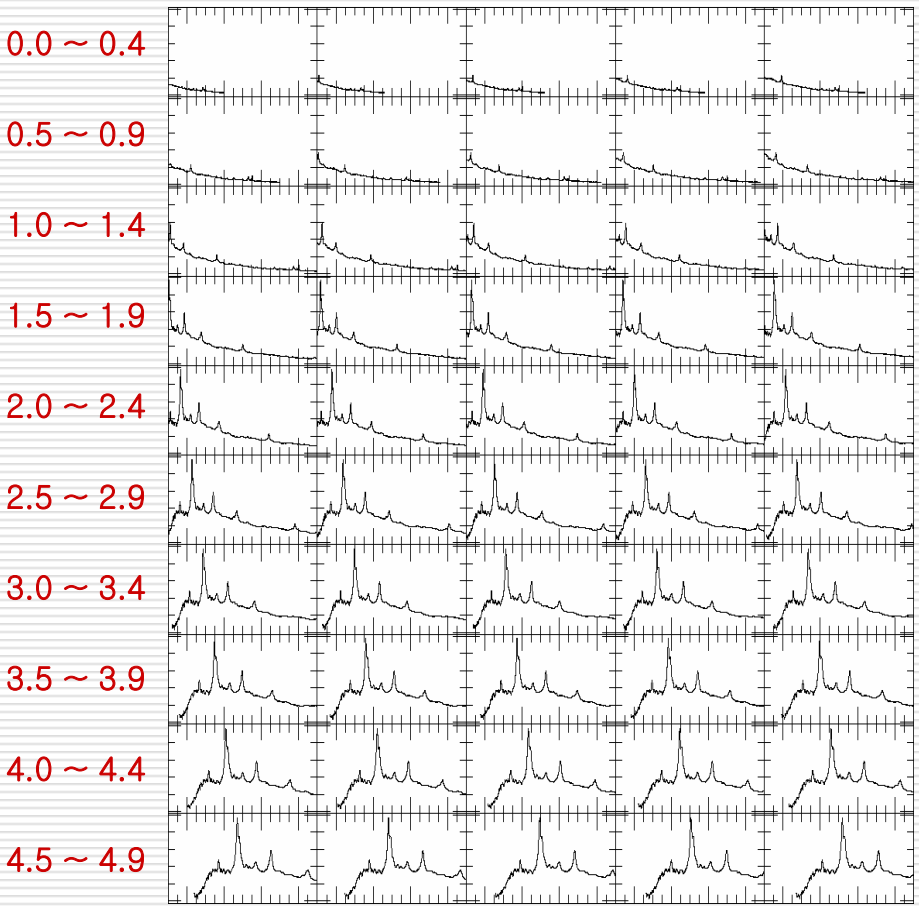


QSO Composite Spectrum

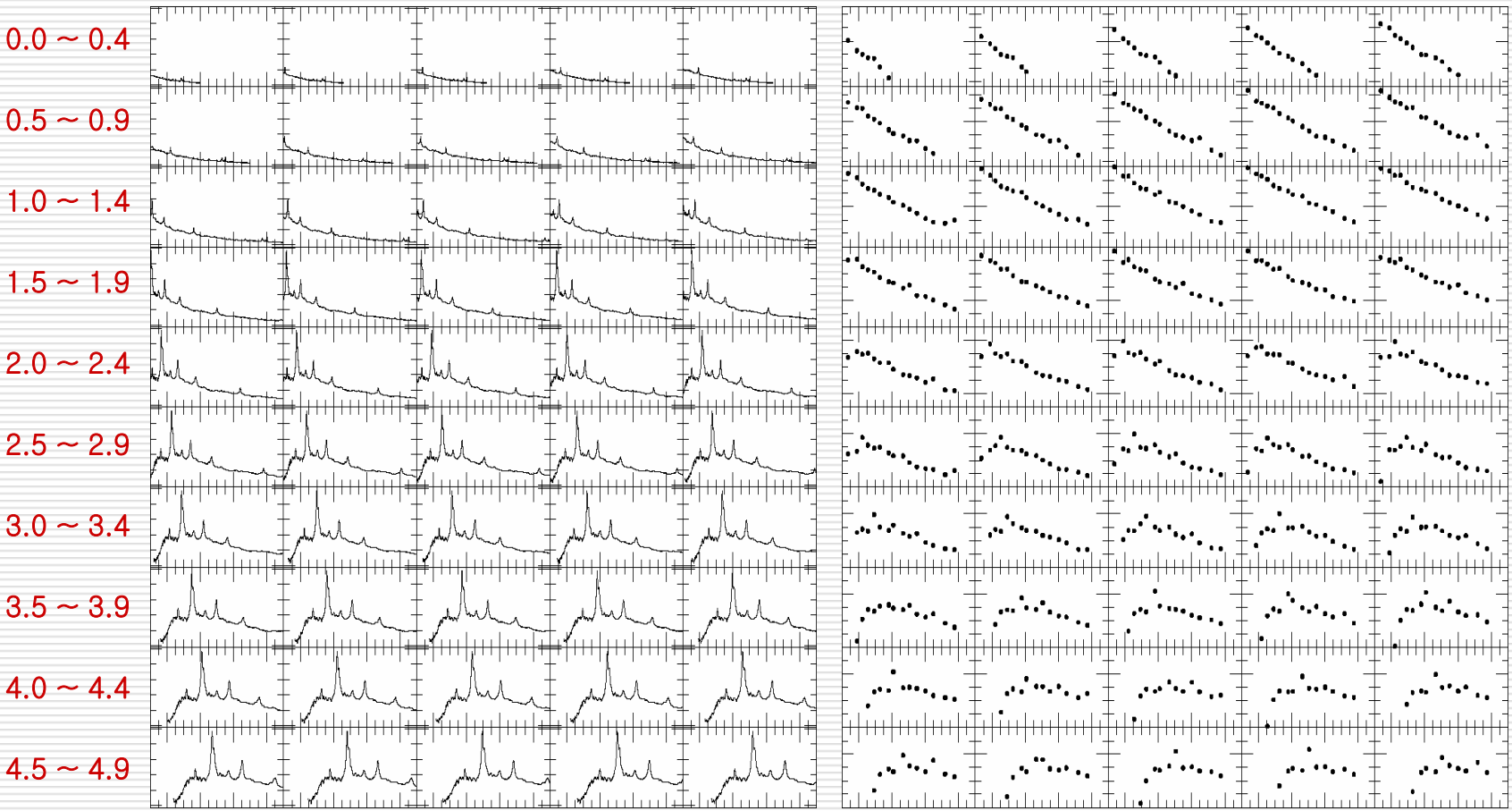


Zheng et al. 1997

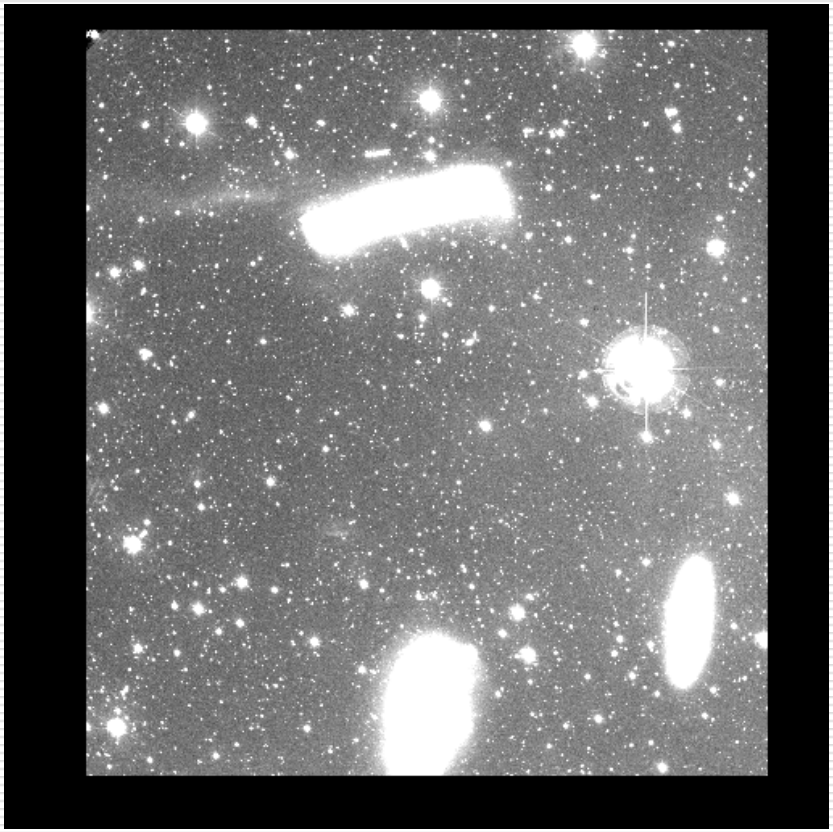
Redshift Simulation for QSO Spectra



Redshift Simulation for QSO Spectra

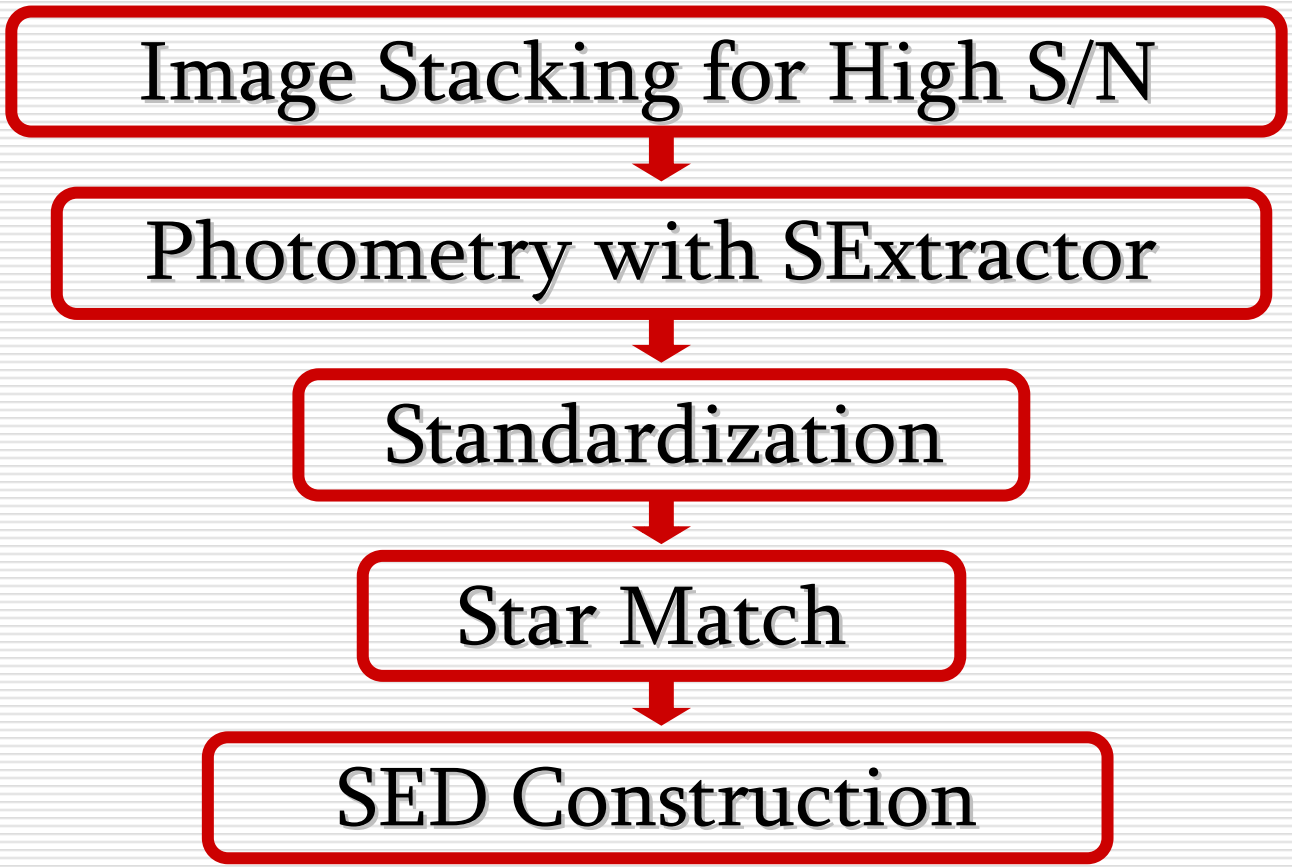


Leo Triplet System

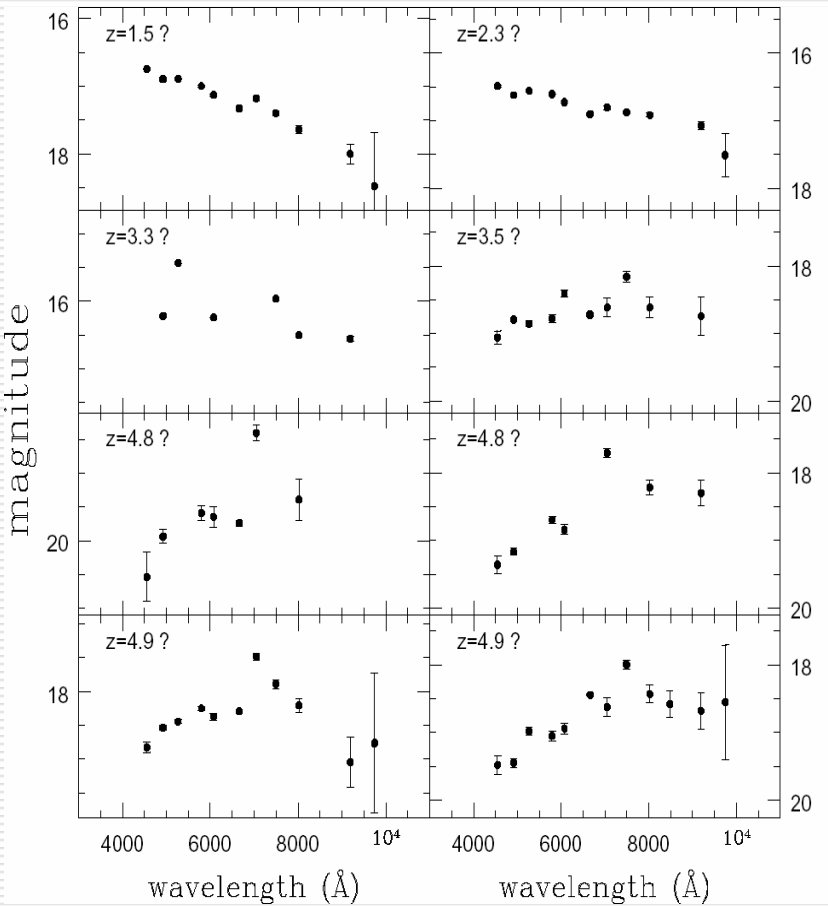


- Leo Triplet is composed of three galaxies (NGC3628,NGC3627, NGC3623) interacting each other for their tidal forces

Data Reduction

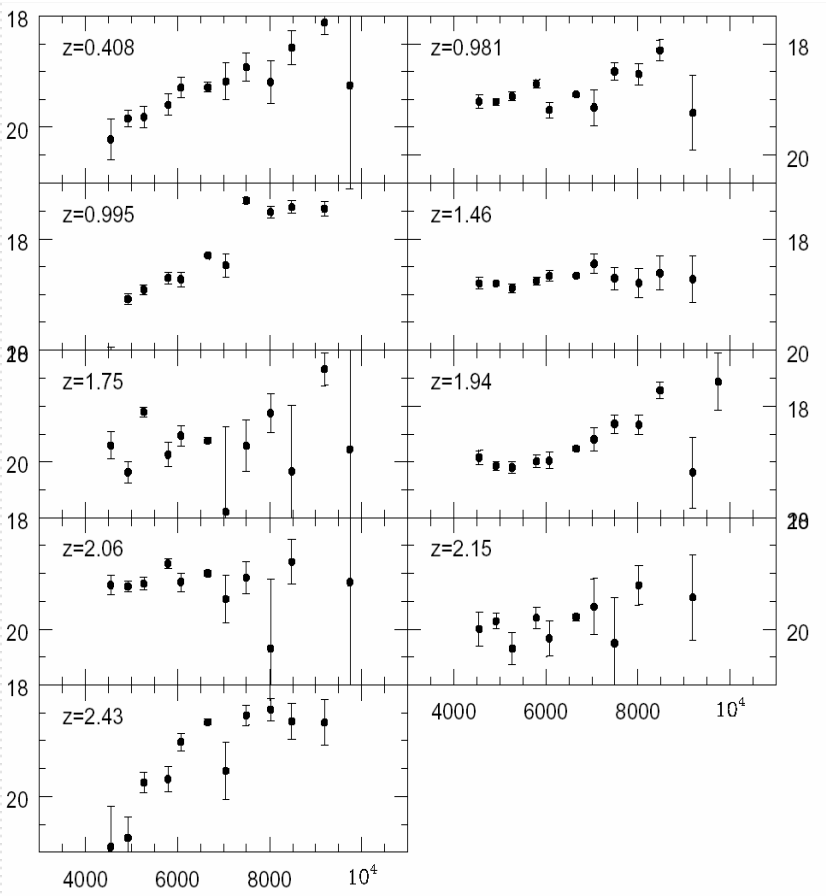


New QSO candidates



- More than 17 new QSO candidates
- They are selected based on their slope and emission lines in the SED
- Follow-up observations are planned

Known QSOs in Leo Triplet field



- No general agreement with model predictions for given redshifts
- Some of them may not be real QSOs
- Some of them may have different redshift

Summary

- We performed QSO identification with BATC multiband data
- 17 new QSO candidates were selected by examination of SED and follow-up observations are planned
- Known properties of QSOs are not enough to identify them