High redshift low luminosity QSO survey in the COSMOS field by using Subaru Telescope

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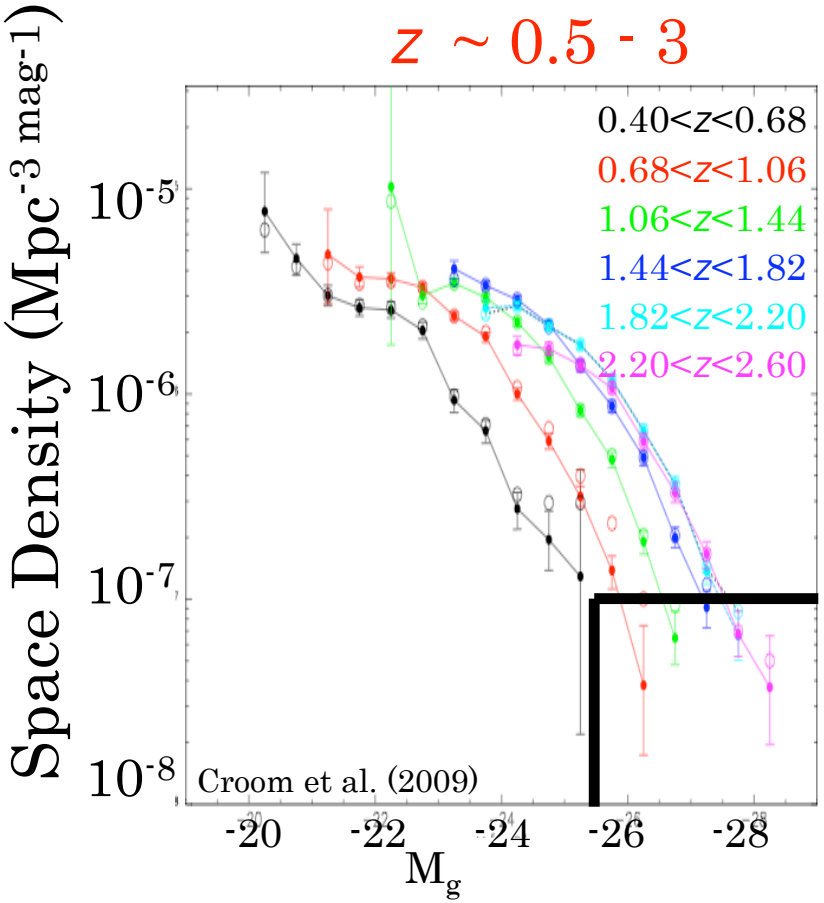
＜Introduction＞

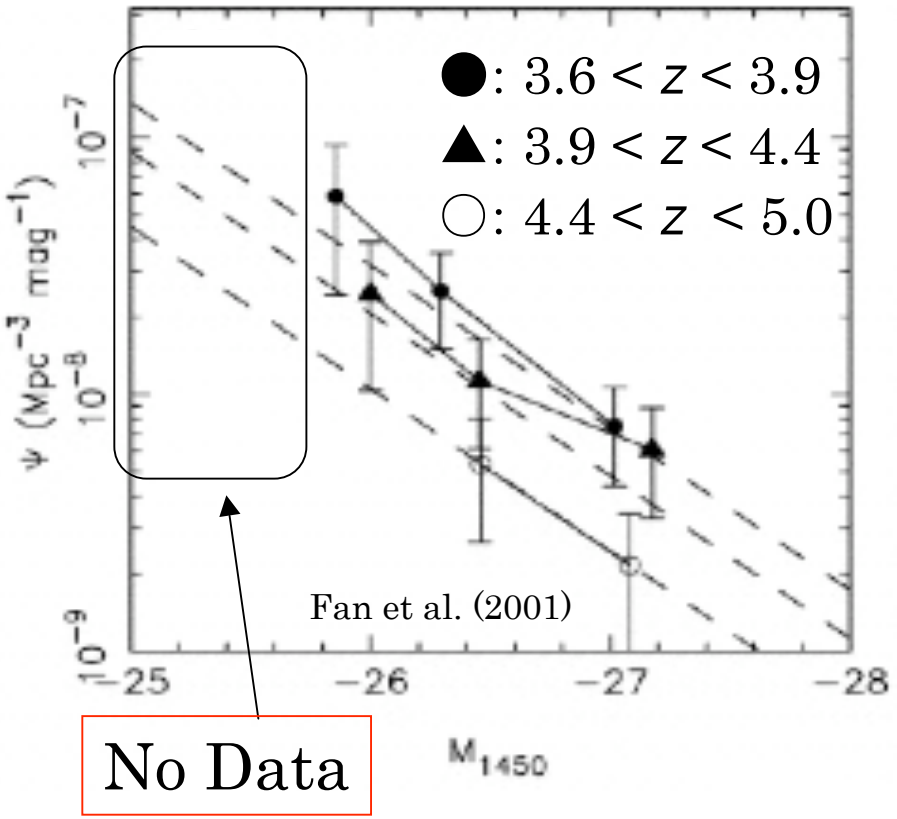
We have focused on the QSO Luminosity Function
to study the evolution of SMBHs.

QSO Luminosity Function

$z \sim 0.5$ - 3



$z \sim 4$ - 5



＜Data and Sample Selection＞

・Survey Area：COSMOS Field（2deg^2）

・ Data：COSMOS Catalog

Subaru/Suprime-Cam: Data of the *g'*,*r'*,*i'*,*z'* filter

HST/ACS: Data of the F814W(*i*)

・Sample Selection

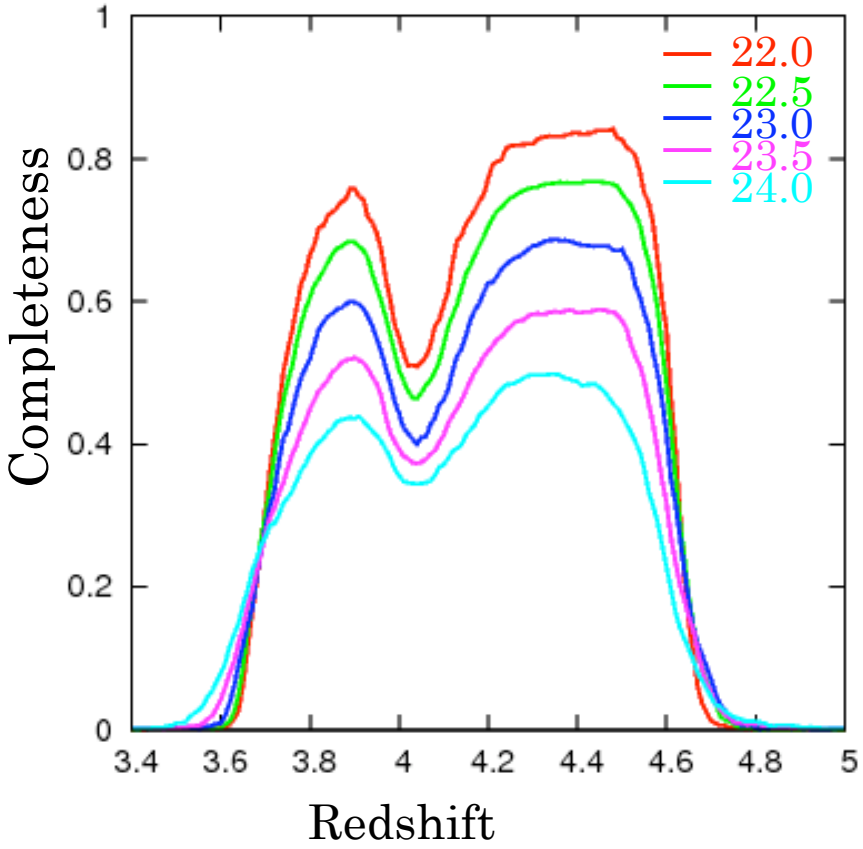
(1) Point source on the HST image and 22<i<24.

(2)Two-color diagram(*g'*−r' vs. *r'*−*i'*、 *r'*−*i'* vs. *i'*−*z'*)

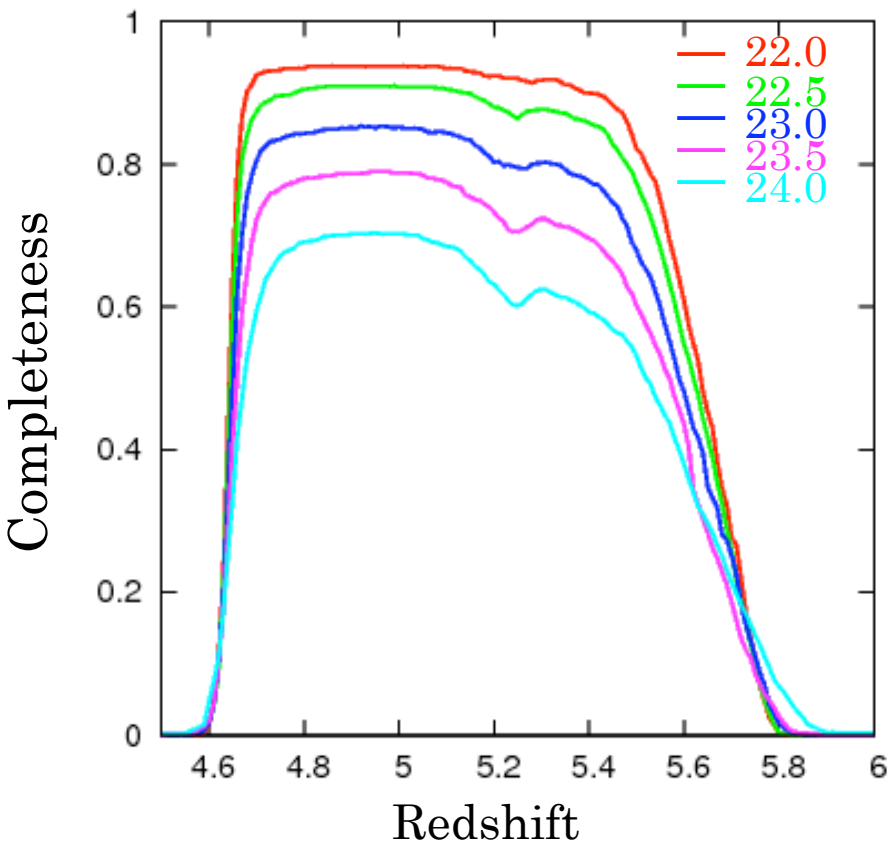
31 candidates at *z*~4　15 candidates at *z*~5

＜Completeness＞

gri-selection(z~4)



riz-selection(z~5)



Completeness is not 1 at i'<22.

→Bright Objects that exist foreground

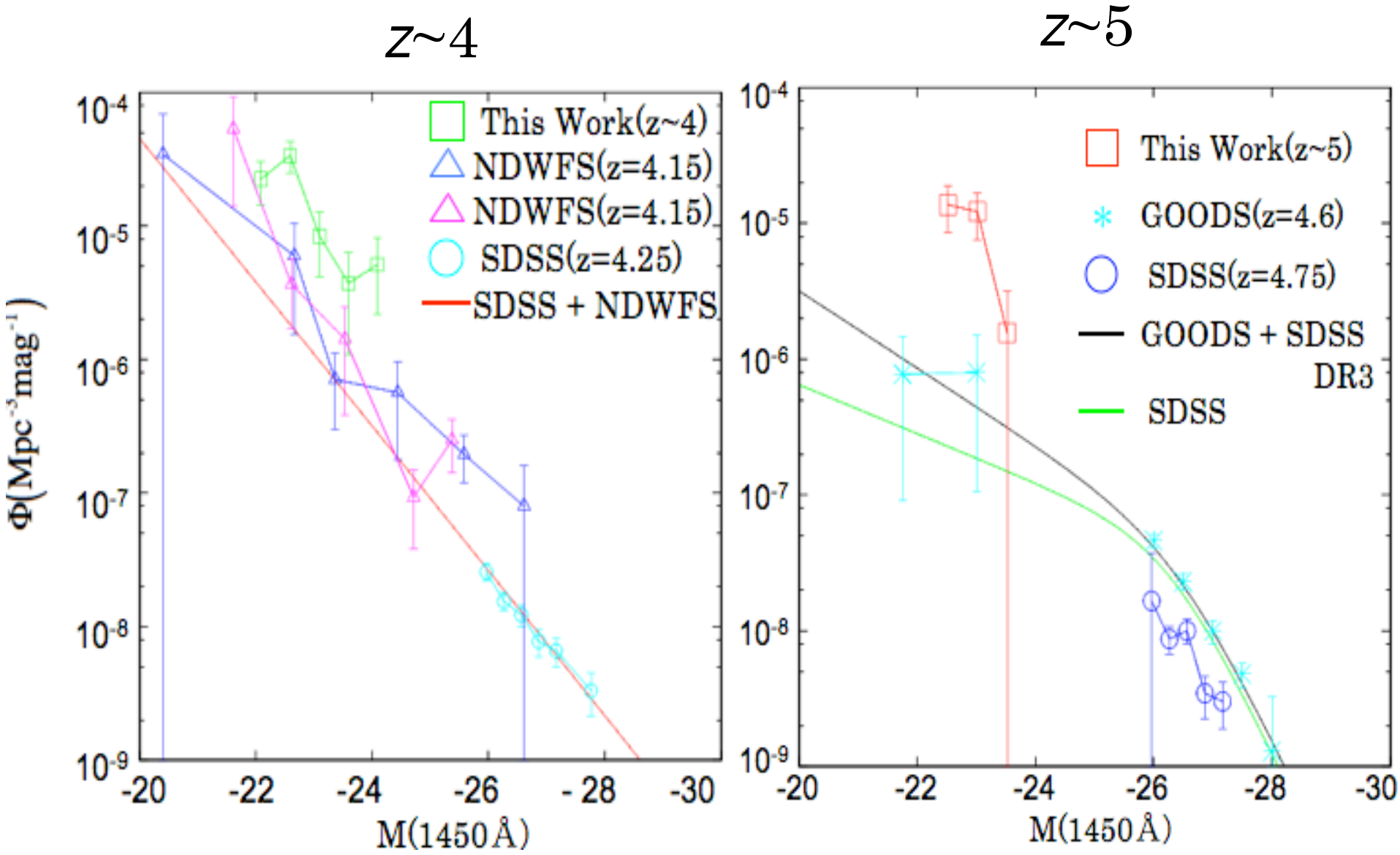
→Individuality of QSOs

→Photometric Error

} due to this 3 effects

＜Preliminary QSO Luminosity Function＞

Faint end slopes are steeper than previous study.



＜Summary＞

・We surveyed high redshift QSOs in the COSMOS field.

・We estimated our photometric completeness through detailed Monte Carlo simulations by using quasar model spectra.

・We estimated the preliminary QSO LF at z~4 and z~5.
→ Faint end slopes are steeper than previous study.

＜Future Work＞

・We observed spectroscopically using the FOCAS on the SUBARU Telescope on 2010 January 7-11.
So, We will estimate the contamination and the QSO LF.

・We will disscuss about evolution of the SMBHs from the QSO LF.