QUASARS AT QUITE HIGH REDSHIFT

2007 Alumni Meeting

ESAC Trainee in 2004

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ESAC Trainee Meeting, July 2007

QUASARS AT QUITE HIGH REDSHIFT

1. **Introduction**
2. **The BAL phenomenon**
3. **Selection of the sample**
4. **Data analysis**
5. **Future plans**

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QUASARS AT QUITE HIGH REDSHIFT: Introduction

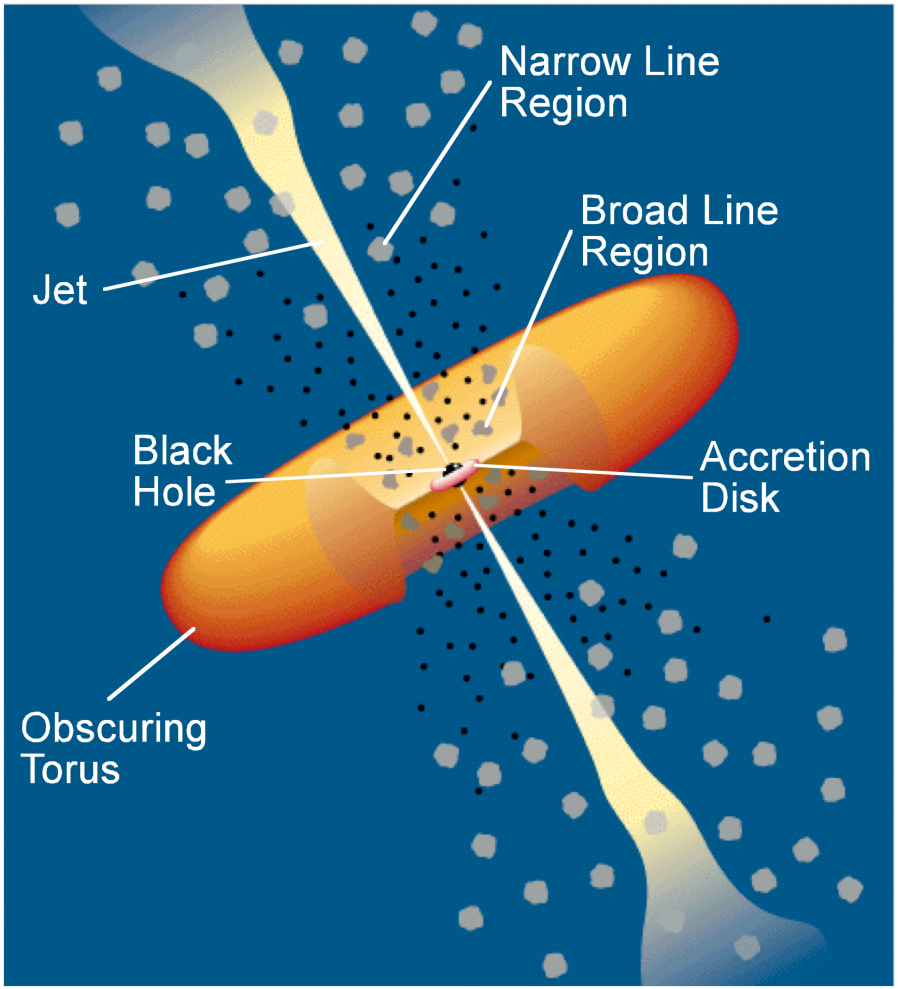
Unification of AGN
(Active Galactic Nuclei)

QSO (Quasi-Stellar Object, or quasar, QUASi-stellAR) in the center of each AGN: black hole surrounded by an accretion disk

moving clouds: BLR (fast) & NLR (slow)

classification: depending upon the orientation of the system

know the properties & composition of the medium



Urry & Padovani, 1995

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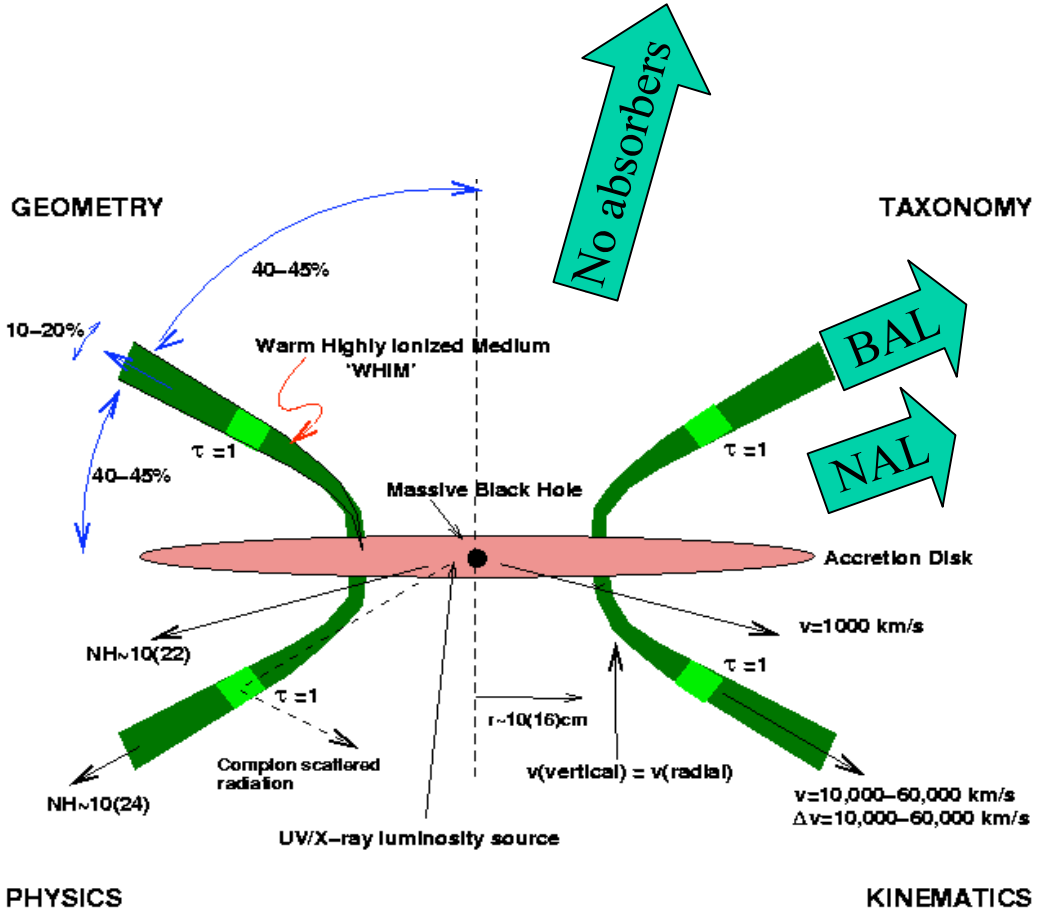
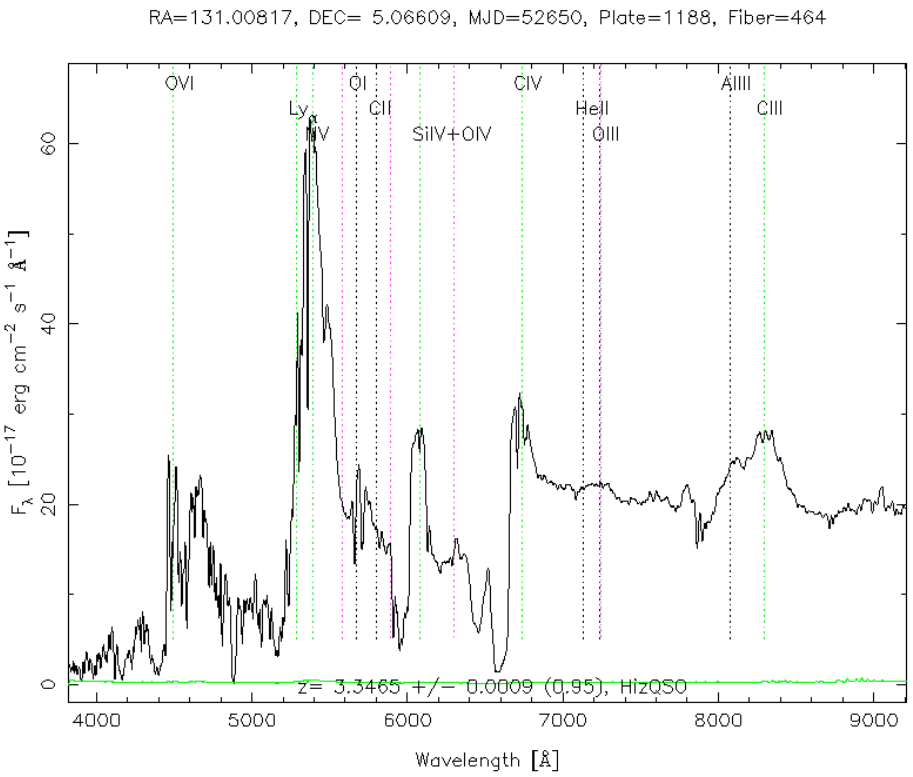


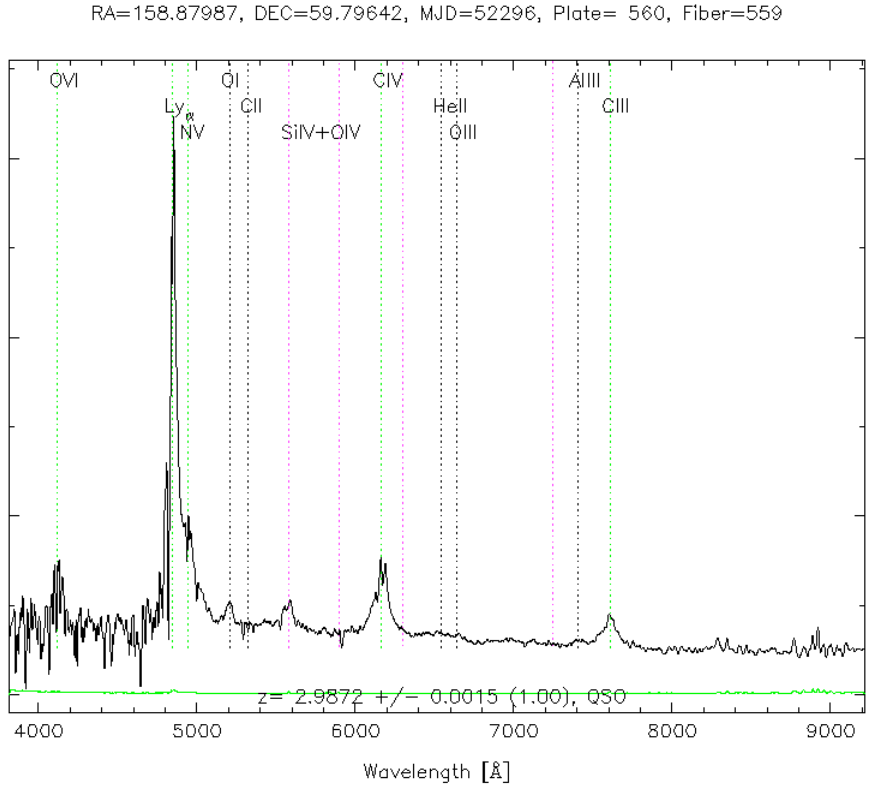
Elvis, 2000

QUASARS AT QUITE HIGH REDSHIFT: The BAL phenomenon

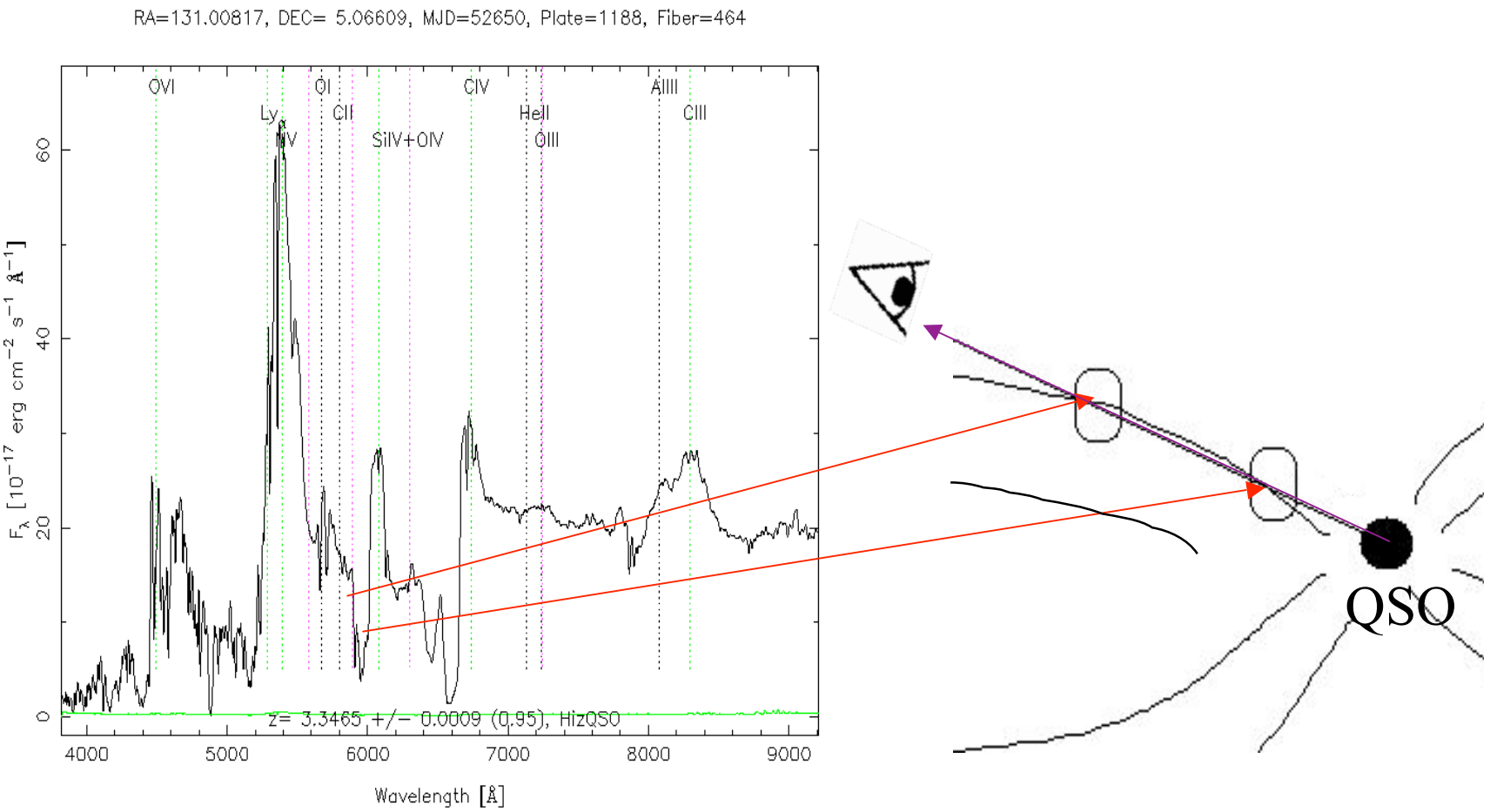
BAL QSO Broad Absorption lines



NON-BAL QSO



QUASARS AT QUITE HIGH REDSHIFT: The BAL phenomenon



QUASARS AT QUITE HIGH REDSHIFT: The BAL phenomenon

Lines of investigation

✓ Orientation ⟶ classification

✓ Line-locking ⟶ radiative pressure

a blue component of the doublet of an absorber lies just at the expected position of the red component of the doublet of another absorber

✓ Covering factors and column densities ⟶ composition

QUASARS AT QUITE HIGH REDSHIFT: Selection of the sample

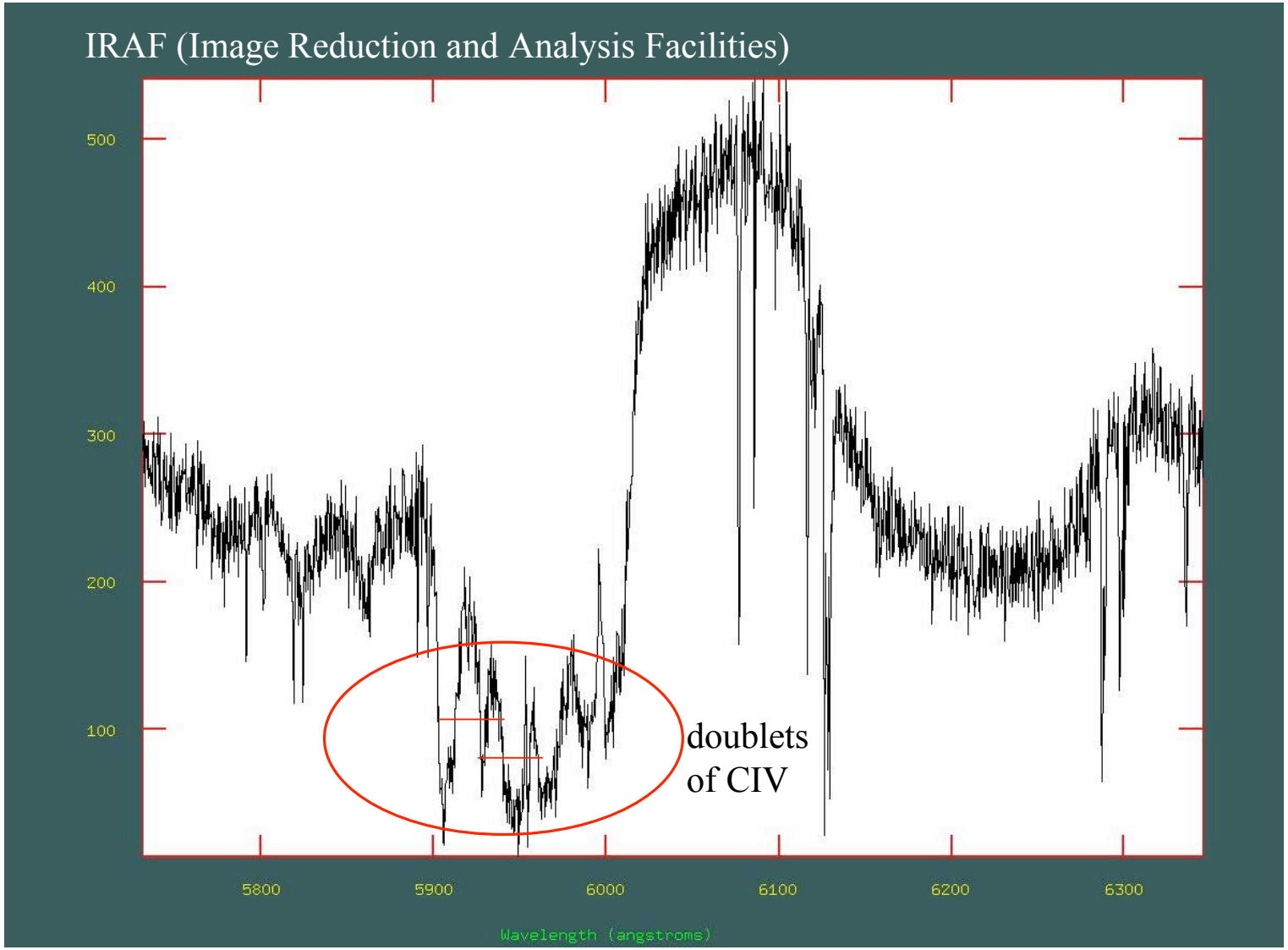
SDSS (Sloan Digital Sky Survey) DR5 (Data Release 5)

FIRST (Faint Images of the Radio Sky at Twenty-cm)

redshift $z \geq 1.7$
magnitude $r \leq 19$
with velocity structure

SDSS name	RA	DEC	r	z	...
0014-0852	00:14:08.22	-08:52:42.26	18.968	1.745	...
0014-0107	00:14:38.28	-01:07:50.19	18.966	1.816	...
0046+0104	00:46:13.54	+01:04:25.71	18.033	2.152	...
0148-0051	01:48:12.81	-00:51:08.78	18.945	1.82	...
0200-0845	02:00:22.01	-08:45:12.09	18.740	1.943	...
0217-0854	02:17:40.97	-08:54:47.93	18.197	2.571	...
0743+3109	07:43:34.49	+31:09:06.08	17.826	1.909	...
0743+4357	07:43:40.62	+43:57:05.83	18.947	1.857	...
0839+0454	08:39:25.61	+04:54:20.27	18.796	2.447	...

QUASARS AT QUITE HIGH REDSHIFT: Data analysis



QUASARS AT QUITE HIGH REDSHIFT: Future plans

- Obtain estimations of the distance by this method.
- Contrast the sample with the recent SDSS Data Release 6.
- Observe all the sample at the Observatorio del Roque de los Muchachos.
- Radio observations of the sample to compare with the optical observations.

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Thank you!

Join to us!

http://www.ifca.unican.es/

http://www.fismod.unican.es/

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