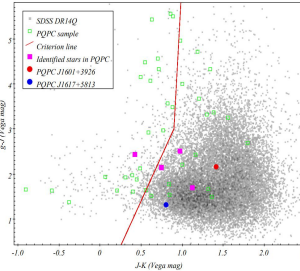


**Quasar** pairs are of great significance on researching co-evolution among quasars and clustering of quasars in spatial distribution. In this work, we developed a method called “**zero pm**” to hunt for quasar pairs as a experimental work.

- Select sources with pmra and pmdec **between  $\pm 0.5\text{mas/yr}$**  (Gaia DR2).
- X-matching radius  $\sim 20''$  (SDSS DR14Q) & Removed duplicated sources.
- Performed a **visual inspection** and obtained **final sample: PQPC**.
- Shot spectra for **6** of 270 candidates (XLT/BFOSC, 2.16m).



**Table 1.** Properties of quasar pair candidates and detail of the XLT/BFOSC observations. Note that we didn't observe known quasars or give a redshift for recognized stars. Additionally, J1358+4710a, J1557+1556a and J1617+5813a have no photometric data in Gaia DR2. So we chose SDSS r-band magnitudes as a reference, for SDSS-r has the most approximate magnitudes with Gaia-G than other SDSS bands.

Obj.Name <sup>(1)</sup>	Sep. <sup>(2)</sup>	$m_G$ <sup>(3)</sup>	$SDSS_r$ <sup>(4)</sup>	$z$ <sup>(5)</sup>	Obs.Date <sup>(6)</sup>	Exp.Time <sup>(7)</sup>	Type <sup>(8)</sup>	Classification <sup>(9)</sup>
J0743+4449a		20.33	20.25	2.06			quasar	
J0743+4449b	6.5	17.78	17.72	-	2021-04-17	3600	star	quasar-star
J0756+1914a		19.34	19.09	0.92			quasar	
J0756+1914b	8.7	17.66	17.61	-	2021-04-17	3600	star	quasar-star
J1358+4710a		None	21.28	1.21			quasar	
J1358+4710b	11.6	17.89	17.82	-	2021-04-17	3600	star	quasar-star
J1557+1556a		None	21.30	2.21			quasar	
J1557+1556b	9.9	17.62	17.58	-	2021-04-17	3600	star	quasar-star
J1601+3926a		20.40	20.05	3.07			quasar	
J1601+3926b	12.1	18.26	18.27	2.45	2021-04-17	3600	quasar	projected quasars
J1617+5813a		None	20.90	0.73			quasar	
J1617+5813b	10.7	17.11	17.07	2.37	2021-04-17	3600	quasar	projected quasars

NOTE—In the first column, “Object Name” followed by “a” refers to the known quasars in SDSS DR14Q, while “b” refers to our targets observed. Column from (2) to (9) are angular separation between source a and b (arcsec), Gaia G-band mean magnitudes (mag), SDSS r-band magnitudes (mag), redshift of quasars, observation date (UT), exposure time for spectra (s), type of objects and classification of this double system, respectively.

