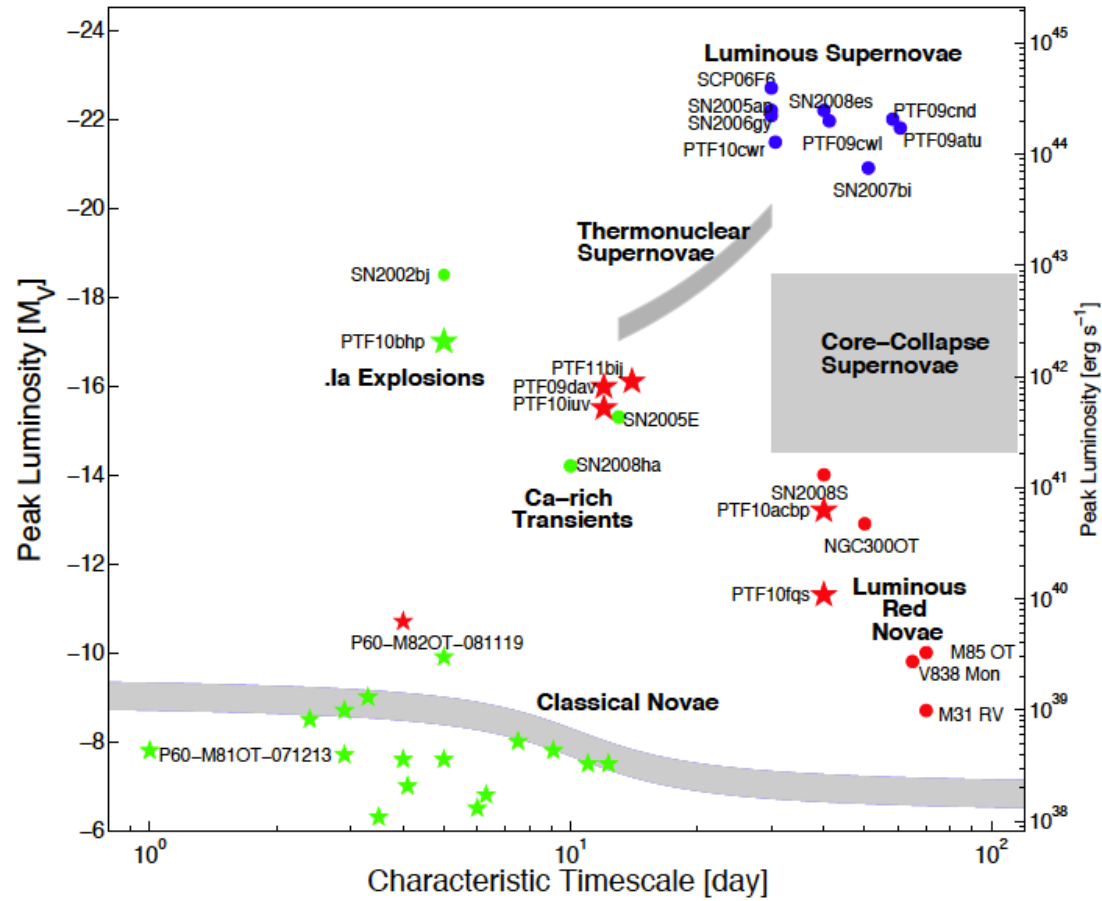


Science with LSST in DK

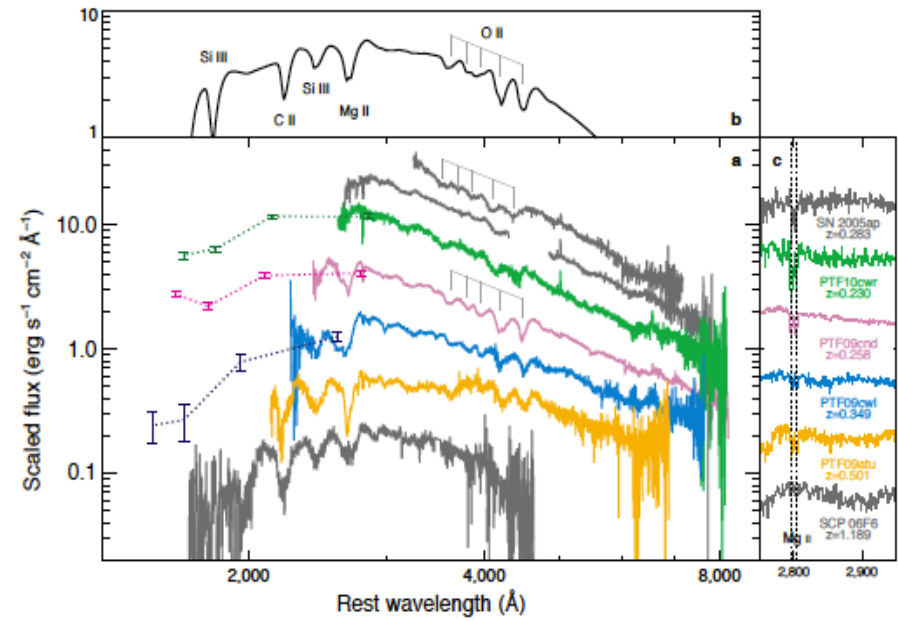
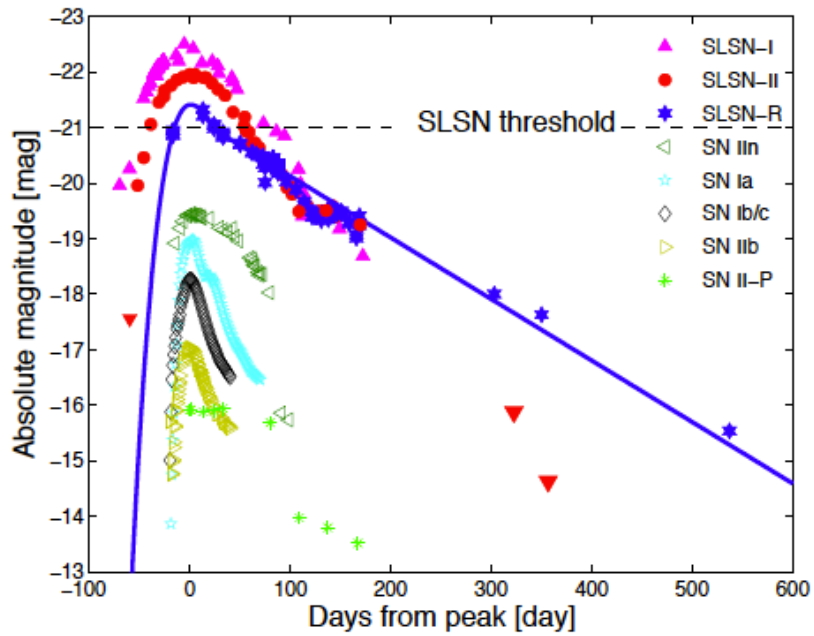
(some scattered thoughts)

Giorgos Leloudas

Time-domain



The bright



A tremendous increase in numbers

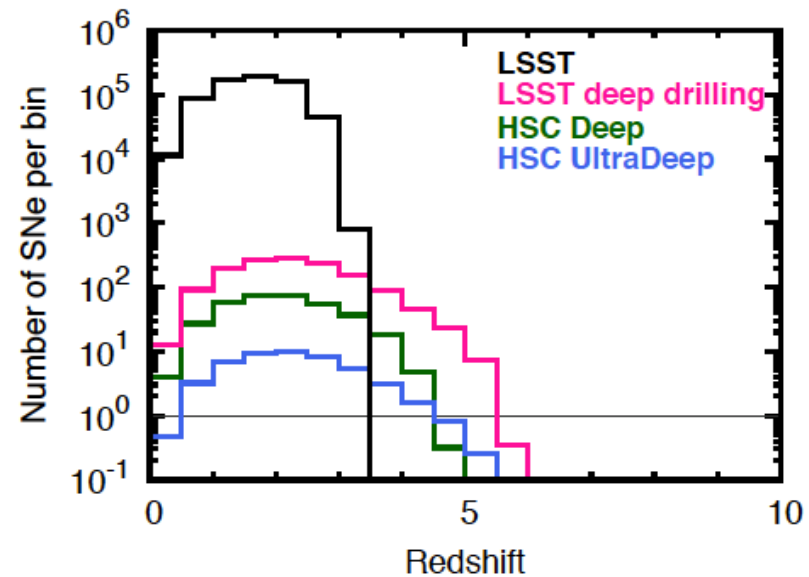
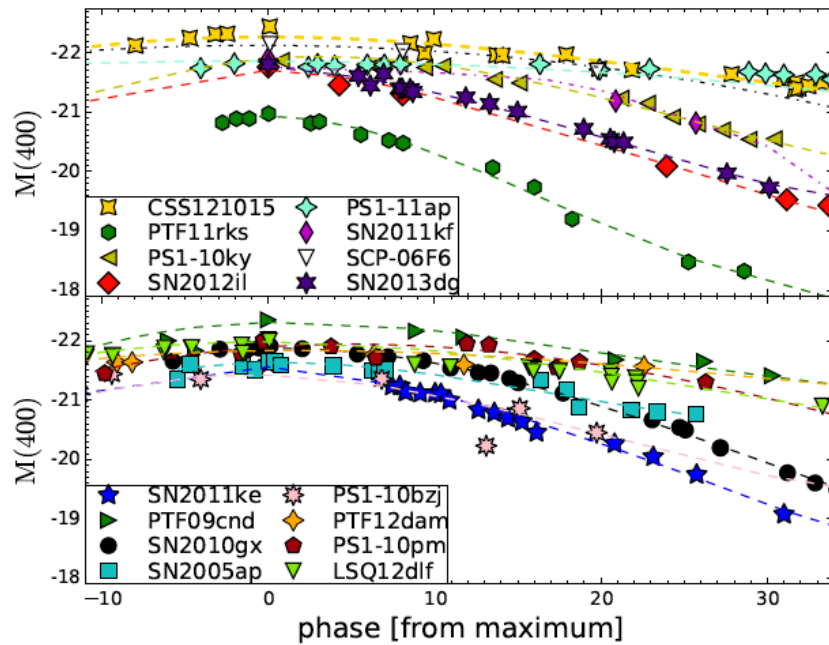
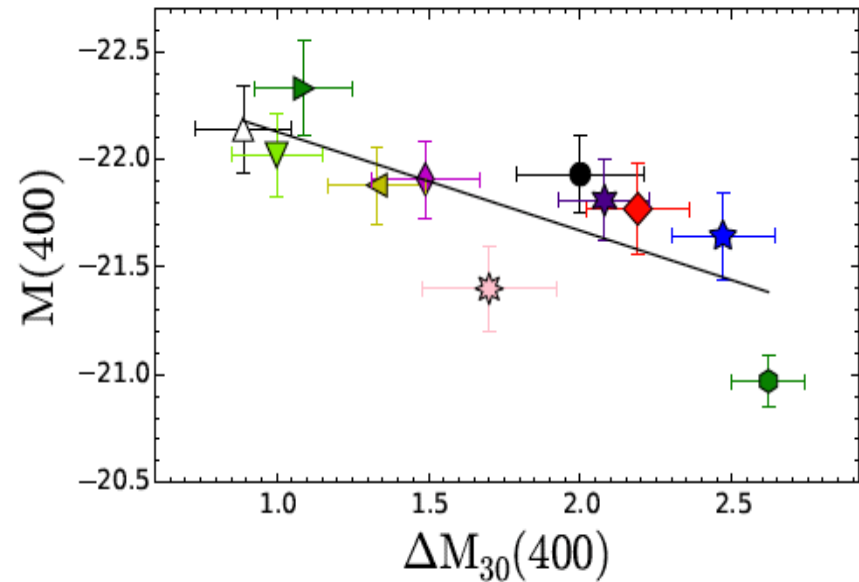


Figure A2. Expected number of SN detection per $dz = 0.5$ bin as a function of redshift with LSST surveys. For the adopted survey parameters, see Table A1. For comparison, we show the simulations with the HSC survey strategy (Deep and UltraDeep layers). In this figure, a constant limiting magnitude in optical wavelengths is assumed for simplicity. See Paper I for more detailed simulations with HSC. All the simulations have been performed for Case B SFR density and Model 08es.

H-poor SLSNe as standard candles

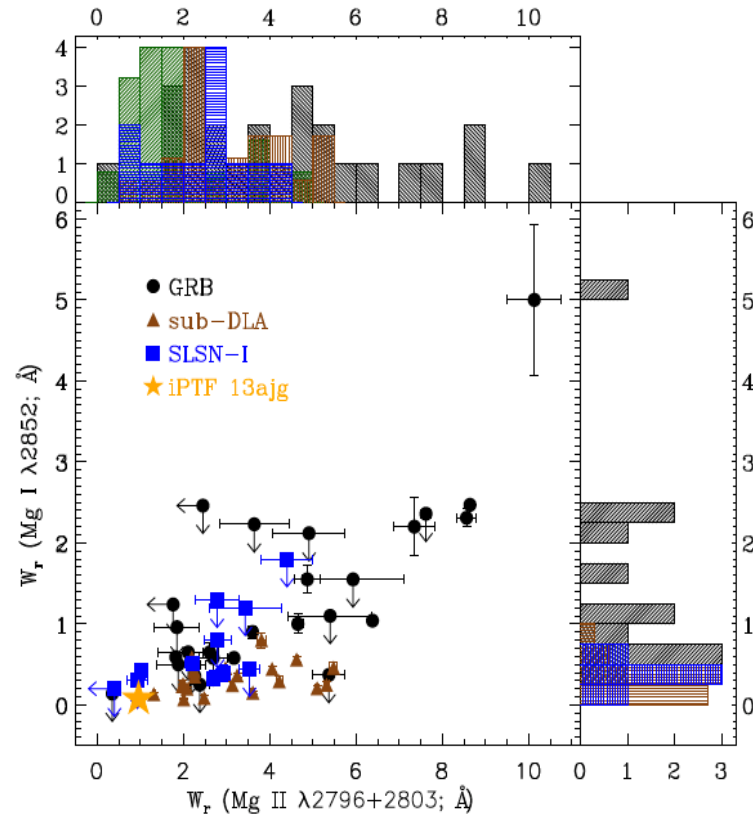
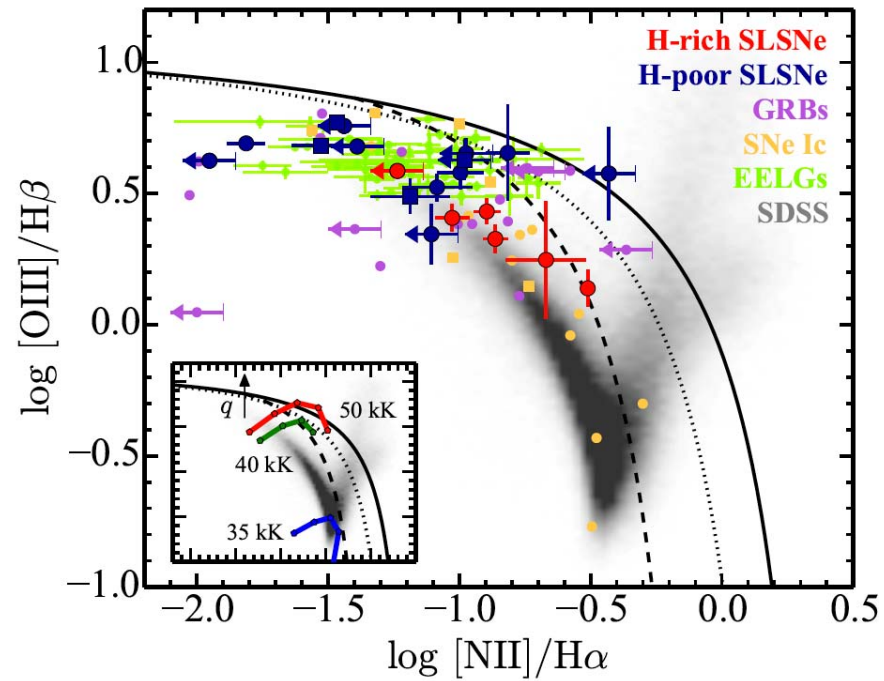


$$M = -21.81 \pm 0.34 \text{ mag}$$

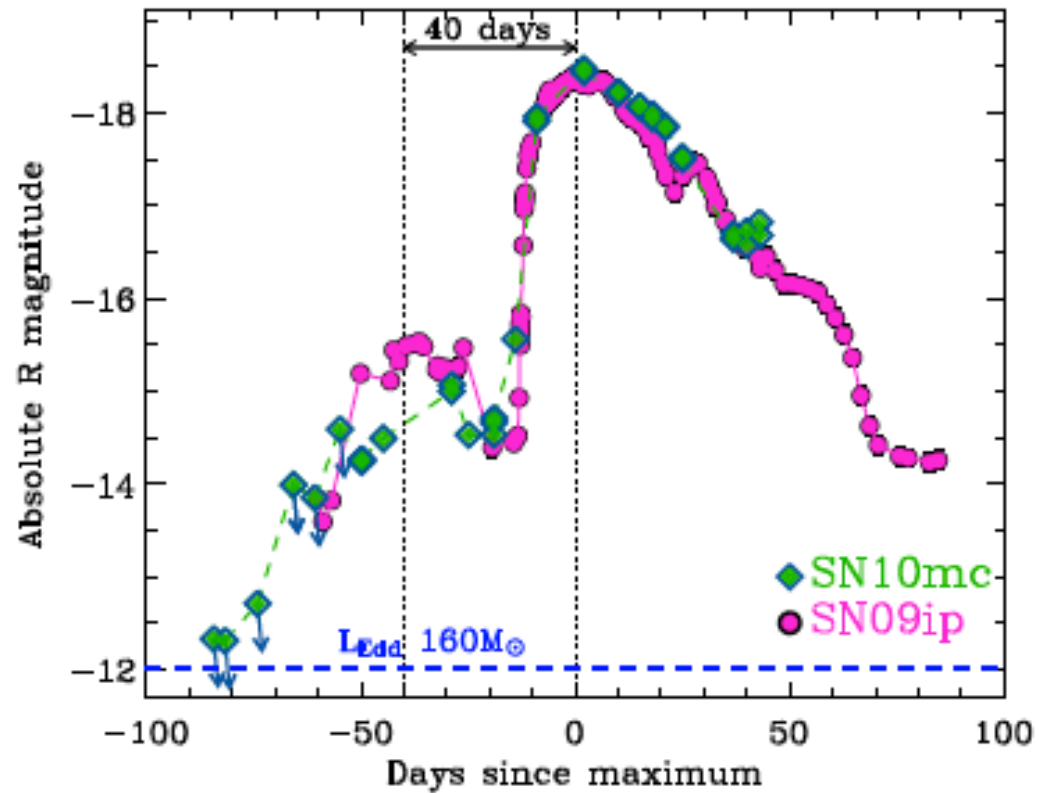


$$\sigma = 0.23 \text{ mag}$$
$$\text{Spearman} = 0.83$$

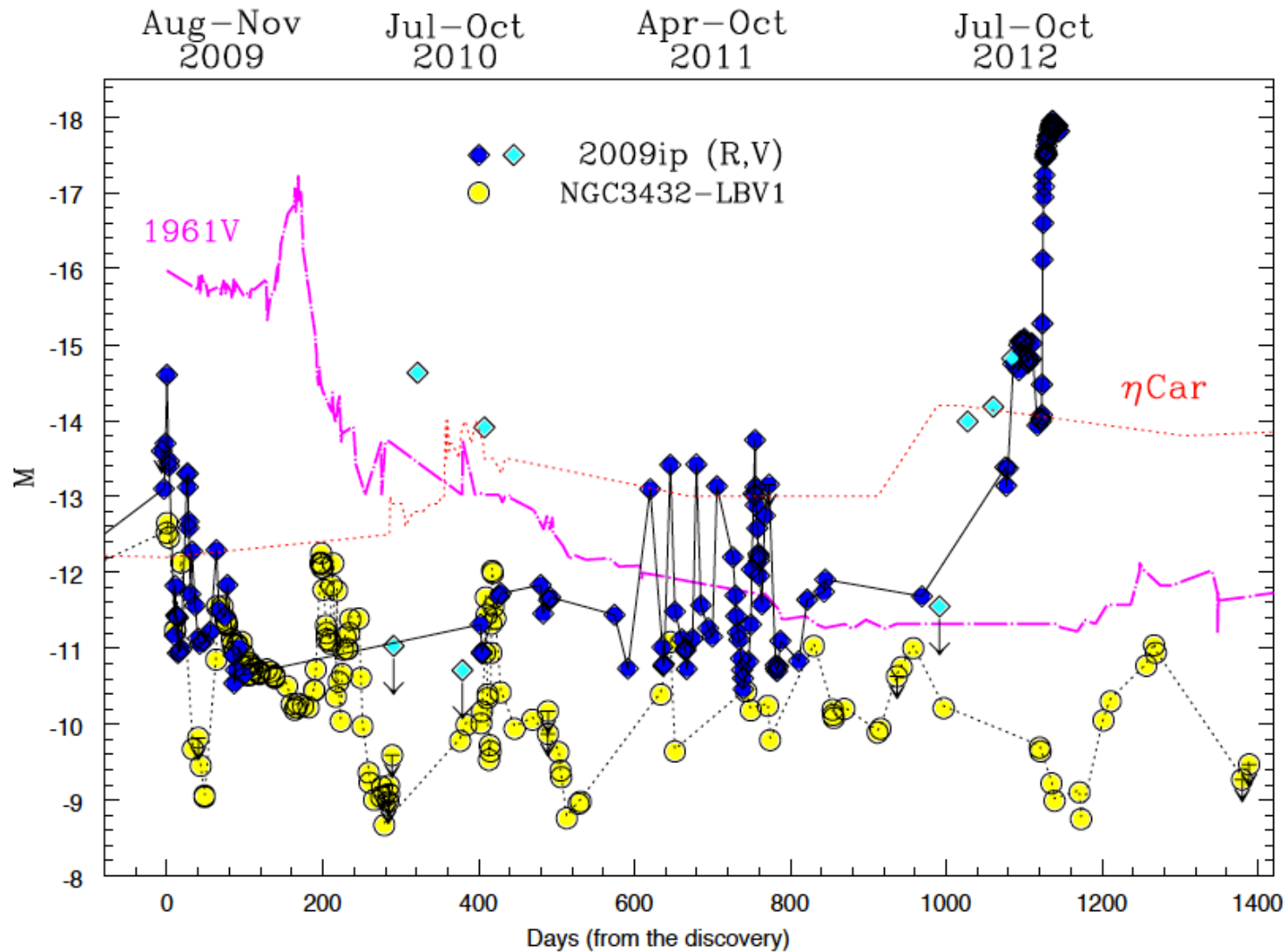
SLSNe as tools



Pre-explosion outbursts



Dedicated monitoring of LBVs



Spectra, Spectra, Spectra

Flags

- Remove known stars
- Remove known rocks
- Remove known AGNs
- Remove known CVs
- Only unsaved events
- Only local universe events
- Only coadds
- Remove coadds
- Print query and load times

Reload

General Cuts

Observation date (UT) = 20150913 (yyyymmdd)
 Match radius < 1.0 (arcsec)
 Match time > 30 (minutes)
 Subtraction Flag(s): 0 1 2
 Galactic latitude (abs) > 10.0 (degrees)
 Number of Candidates <= 200

RB Cuts

Realbogus2 >= 0.3 , >= 0.3
 TILU Realbogus2 >= 0.3 , >= 0.3
 --or--
 Realbogus4 >= 0.7 , >= 0.7
 --or--
 Realbogus5 >= 0.8 , >= 0.8

Found >200 distinct candidates (showing only first 200)

Latest Sub	New	Ref	Sub	SDSS
17:52:16 (2015-09-13) 3 matcher(s) in iPTF DB before tonight 0 matcher(s) in best PTF DB				 ID: 468279178 RB2: 0.41 RB4: 0.49 RB5: 0.30 Mag: 18.71 ± 0.16 MPChecker NED SIMBAD VizieR DSS (fits, gif) Transient: <input type="text"/> Save
Show / Hide Other Candidates Found at This Location on the Same Night				
17:51:51 (2015-09-13) 50 matcher(s) in iPTF DB before tonight 0 matcher(s) in best PTF DB				 ID: 468276615 RB2: 0.32 RB4: 0.60 RB5: 0.57 Mag: 14.26 ± 0.00 MPChecker NED SIMBAD VizieR DSS (fits, gif) Transient: <input type="text"/> Save

The screenshot shows the PTF search results page. At the top, there are search filters and a table of candidates. The table columns include RA, Dec, RB2, RB4, RB5, Mag, and Comments. Below the table, a grid of images is displayed for each candidate. Each image row contains: a reference image, a subtracted image, a light curve plot (Apparent Magnitude vs Days Ago), and a comment box. The light curves show magnitude changes over time, with red arrows indicating detected transients. Comments provide additional information about each candidate, such as whether it is assigned for spectroscopy or if there are any known objects nearby.

Classification, classification, classification ...

Keck1+LRIS | 2011 Mar 04 | Object

