Re-scans of spectra and catalog evolutions

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Recap of previous step

- cf mail sent on 2025 sept. 11
- rescan of **46** spectra for which John estimated a redshift between .035 and .05 but my procedure+manual scan did not estimate a redshift
- **4 out of 46** spectra ($\sim 10\%$) have been "revised" (errors in my scan)
- 1 spectrum from an object observed twice; other obs. was OK
- lted to a v2 of my pre-catalog (with doublons)

Spectral spacing

- Albert noted the spacing of my redshift scans ($\delta z = .001$) seems too large
- The WYINZ spectra have a $\sim 2A$ spacing
- The templates I use have a similar (log scaled form some) spacing
- Also given the low S/N of (most of) our spectra claiming a 10^{-4} redshift accuracy seems somewhat optimistic to me.
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Narrowing the scan spacing (I)

- First I blindly ran the procedure with a 10^{-4} spacing. blindly = compute the correlation, and note max. position and SNR.
- noticed that some results changed.
- looked (scanned) at these difference (O(25) eml, O(50) abs. spectra) :
  - ▶ a few more book-keeping errors
  - ▶ doublons trouble the identification
  - ▶ some low SNR cases have several extrema ⇒ switch to an other one with finer scan
  - ▶ chose to remove 3 eml and 12 abs. (mainly low SNR) spectra

Narrowing the scan spacing (II)

- Seeing these small changes I also re-scanned the ~ 140 spectra with visual z but not from my procedure
- 6 have another "successfull" measurement
- found 16 cases which I decided to "upgrade" :
  - mostly low SNR eml spectra
  - a few (2-3) missed in the previous scan
  - 3 have and emission line in "atmosphere" syste range

V3 catalog

A new (v3) pre-catalog is available here :
https ://box.in2p3.fr/s/FQ5pX5Z6FBX8FAR
Caveat : some "manual" modifications ⇒ be sure to use Type
variable to recognize spectrum status
Some numbers :
1936 spectra analyzed
803 with a redshift : 497 eml ; 263 abs. ; 41 both ; 2 QSO
698 spectra with $z_{vis} > 0$
130 (NB 5 re-observed) spectra with $z_{vis} > 0$ but Type=0 (no z
from my processing)
see 5 randomly selected examples hereafter
88 spectra with $z_{vis} > 0$ and abs. type ; 15 with $|\delta z| > .02$
441 spectra with $z_{vis} > 0$ and eml. type ; 14 with $|\delta z| > .02$

ID= 269 NCCS Obj. 436143 Vmag=16.94 V-I=1.12 z=0.0458 qual= 1 PESS=2

ID= 47 NCCS Obj. 18111 Vmag=17.95 V-I=1.76 z=0.0408 qual= 2 PESS=3

ID= 150 NCCS Obj. 417503 Vmag=18.51 V-I=1.93 z=0.0109 qual= 3 PESS=2

Legend:
- Abs. line
- Em. lines
- Telluric lines

Wavelength (Angstroms)

ID= 376 NCCS Obj. 624429 Vmag=18.82 V-I=1.51 z=0.0533 qual= 1 PESS=2

ID= 1204 NCCS Obj. 1658479 Vmag=18.81 V-I=1.93 z=0.0058 qual= 1 PESS=2