1. Is that true that you observed 101 sources using 3 CO lines 12CO(1-0), 13CO(1-0) and C18O(1-0) and many telescopes: B3LS, B5LS, B6LS, B8LS, B3US, B5US, B6US, B8US, B9US etc ? What are B3LS, B5LS, B6LS, B8LS, B3US, B5US, B6US, B8US, B9US... ?

---they (many telescopes) are the same telescope but for different beam and side band. The Delingha 13.7 m radio telescope equipped with a 3x3 pixel multi beam side-band separation receiver. So, there are 9 beam in total and each beam has two side band which are upper side band and lower side band.
When mapping, all the 9 beams are used. When observing only one positions, they use all the beams but only one beam is pointed to the source.
So, B3LS = beam 3, lower side band, B6US = beam 6 upper side band.
Please notice that the 3x3 array in the telescope cannot rotate. So, when observing only one position, the data from the beam, which is pointed to the source, is the only usable one.
You may try "set offset 10(arcsecond, can be smaller)" and "find" to see how many spectra were taken near the source, to filter other spectra.

2. Please tell me the meaning of N and F at the end of source-names eg: 4C13.67-**N**, 3C142.1-**F** etc?

---Aha, N = near, F = far. You almost asked the same question below.

3. What is the difference between **(3C142.1-F and 3C142.1-N)** or **(4C13.67-N and 4C13.67-F)**, I mean the same source but with F and N?

---For some sources, it may embedded in a large area of molecular cloud or somewhere else in which you can't find a off position for the position switch observation. The operators in Delingha suggested to use the off positions within the angular distance no far than ONE DEGREE, to avoid bad base line.
So, we chose one off position which is near the source but may contain weak CO (mostly only 12CO) emissions, and another which is far away from the source but we were sure that there is no detectable CO emission.
My suggestion is, the spectra with source names with "-F" should be used first. If the baseline can't be removed clearly, try "-N" then.
I also remind you of combining "-F" spectra and "-N" spectra together, but I don't know if doing this is correct. Please make the decision by yourself, depending on what you need.

4. For each source, there are 60 observations (20 for 13CO(1-0), 20 for C18O(1-0) and 20 for 12CO(1-0)) with different offsets. When running "go where", the offsets shown. I would like to ask what the offsets are? and the unit of offsets, are they in degree? (please see the figures: offsets.png and offsets_go_where_all.png)

---Yes, you made very nice figures to show the image field rotation!
First of all, the numbers are in the unit of arcsecond.
As mentioned in Q1 and A1, the 3x3 array can't rotate. So, when observing only one position, one beam is pointed on the source and tracking. Nothing to do with other beams. So, with different AZ and EL, the positions of other beams change.
If the source is tracked for long time, such as one hour, the position (RA and DEC) of the beam, which is pointed on the source, do not change, but the positions of other beams change due to the so called image field rotation.
Please ignore all the other spectra which have large (may be 10 arcseond or larger) offset.
By the way, the sideband receiver can observe 12CO 1-0, 13CO 1-0, and C18O 1-0 at the same time. I'm afraid that the ~60 observations for one source are actually ~20 observations but with different header information.

5. When plotting spectra, I see that the baselines are sometimes at Zero, sometimes negative, or wavy (as the function of velocity), sometimes there are spikes. Could you please tell me why they are negative or wavy? and why are there spikes? (please see the figures plot_*_*.png)

---The main reason (I guess) is the weather and the off position selection.
Some spectra were taken when it was cloudy or the source was in a low EL.
In this case, the atmosphere in different positions varies a lot, and cause the negative and/or wavy baseline.
For spikes, this is caused by the receiver (backends).
The backends for the telescope is not so stable. Bad channels appear a lot.
Please just ignore these spikes.

6. For spectra with negative baselines, in order to get the CO lines, I only need to subtract the baseline, is it true?

---Yes please.