

Tuesday March 27, 2012

## Clicker questions

Poorly chosen DC markers can have the following effect:

- A. Will change the values of your PToF airbeam and thus your AB correction factor wave.
- B. Will skew the shape of a size distribution plot, but only for a few species, such as Org.
- ★ C. Will skew the shape of all size distribution plots.
- D. Will indicate whether or not you should have used coadds.
- E. Will force you to recalculate your PToF sticks.

If a user suspects data is contaminated with cell phone/walkie talkie interference the best course of action is to

- A. Blacklist all suspected runs with this interference.
- B. Look at every single run in the baseline panel to determine which runs are affected.
- C. Determine the extent of the problem via the frag table diagnostics panel.
- ★ D. Look at your "Closed and open baseline sticks".
- E. See where diff sticks are negative.

'Ringing' is a phenomena for which what is true?

- ★ A. More common in C – ToFs than HR ToFs.
- B. More common in Quad MS than any other MSes.
- C. Is related to the cell phone noise (that's why it is called ringing).
- D. Is seen equally at all m/zs.
- E. It has to do with the resolution of the instrument.

There was some discussion regarding using separate  $m/z$  parameters for open and closed spectra.

Which statement is false?

- A. The best way to determine if separate open, closed parameters are needed is by viewing the pika graph.
- B. The unambiguous physical cause for this behavior has yet to be determined.
- C. If a shift between raw open and closed spectra exists, the offset should be relatively the same for all  $m/z$  peaks (i.e. the same between  $m/z$  41 – 70)
- ★ D. This is an important consideration for the unit resolution analysis.
- E. All of the above. And I need a coffee!

Which of the following is a measure of AMS detection sensitivity?

- A) The pump speeds
- B) The heater bias
- ★ C) The airbeam
- D) The pressure in the lens
- E) All of the above

## All are true about Airbeam Correction EXCEPT

- A. Corrects for changes in ionization efficiency
- B. Corrects for changes in multiplier detection efficiency
- C. Is a continuous measure of the change in AMS sensitivity
- ★ D. Corrects for airbeam related interferences in the frag wave
- E. Should be smoothed to remove noise

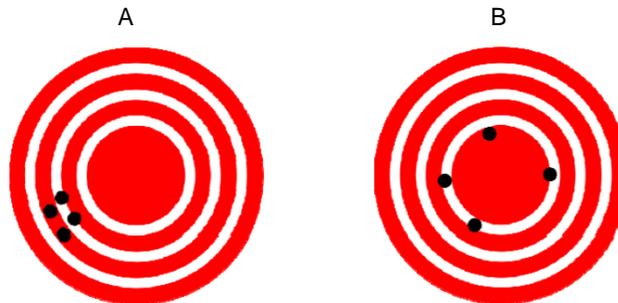
## Which of the following is true under ideal operating conditions?

- A) Airbeam values go up when ionization efficiency goes down
- B) Airbeam values go down when ionization efficiency goes up
- ★ C) The ratio of airbeam to ionization efficiency is constant
- D) I don't know
- E) What is the relative humidity in this room?

## I may have a leak in AMS if

- ★ A) Open AB/Closed AB ratio is  $<3$
- B) With pumps turned off and valves closed, AMS leak rate is 1 Torr/day
- C) Pump currents are lower than usual
- D) Closed water signal is much larger than closed AB signal
- E) It doesn't matter- AMS is interlocked and will turn off on its own anyway

Which of the following statements is true?



- ★ A) Shooter A is more accurate than Shooter B
- B) Shooter A is more precise than Shooter B
- C) Accuracy and Precision are the same thing
- D) Shooter A is precise AND accurate
- E) This is not the National Rifle Association meeting

Which of following statements is true?

- A) AMS species mass concentrations are very precise AND accurate
- B)AMS species mass concentrations are more precise than accurate
- C) AMS species mass ratios are more accurate than AMS species mass concentrations
- ★ D) B and C
- E) A and C