

Plans For Measurements and Model of Wang Set-up

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Wang:- Questions, Suggestions and Plans

1. Need better key.
 - CC1-5 = chiller compressors (2stage) = same as MICE?
 - SC = Single stage compressor = same as MICE?
 - PS = Power Supply rack
 - QD/QP = Quench detector/protector rack
 - Vac = Vacuum system rack
 - CAM = Control and monitoring rack = only closed in rack
2. Is this the best way to show measurements? Also very hard to read. Perhaps it could be included but also a key of locations then a table of coordinates and field.
3. It would be good to use the same coordinate system as for R9, measurements and model.
4. All measurements are made at <150cm in z ie below the beam height. This should be corrected.
5. No coordinates given of measurements taken inside racks.
6. No field values shown to be above 40G. One of the most sensitive pieces of kit in MICE the heater box relays can handle 13-30G. This suggests that field may not be a problem. However:
 - Field in air much less than in metal
 - All measurements below beam height.
 - Are racks similar in design and use as MICE? **YES**
7. What type of hall probe is used? 3 Axis hand held could mean many things:
 - Any offset in the angle at which it is held, or if three separate probes: the distance that they are apart, will affect the measurement precision and validity.
 - Exact coordinates of probe?
8. The make and model (where allowed by Wang) should be recorded.
9. Only one rack was closed in last test, take measurements in open racks, close them (where possible) and measure again for new measurement positions.

Pierrick and I have discussed the merits and limitations of the last data taking and have decided how to move forwards based on this.

Measurements at Wang

- Field will be greatest, or could potentially be, at the corners, nearest the electronics, at rear or in midst a very full shelf. Therefore measurements should take account of this.
- A planar grid of field measurements taken at some sensible spacing (to be determined when in room), would be good as we only have a few weeks where such measurements will be possible.
- The racks at Wang are very full, significantly more so than in R9, therefore, measurements will be more difficult.

Rack Setup



Measurements at Wang

Measure dimensions of room and position of equipment for input to model.

Inside rack: near corners, back, beam height and centre of full shelves (where possible) with depth information ie how far into the rack the probe was. May need to rearrange rack or 'give up' taking some measurements.

Outside racks/compressors: near beam height, at top, bottom (corners?) a few cm and a few cm +n away from rack.

Wang Model

- Adapt R9 AFC design and implement
- New room dimensions and material definition.
 - Room is bigger may have less of an effect.
- Implement new series of racks and compressor
 - Include 'fullness' of rack.

Several weeks alongside other tasks

Early model versions can be compared to existing measurements