Other Updates for MM8 (or 9?)

The following updates should be also considered:

1. Implementation of SWIFT:
   * There is already a button available in MM8, but also some configuration parameters are needed:
     1. Frequency-gap
     2. Cleaning Bandwidth
   * The LabVIEW object for the used function generator has to be tested again.
2. Implementation of general camera readout with MM8:
   * Since the modifications for PI-ICR will need to include support for images within MM8, the implementation of very general CCD-camera pictures could be seen as an intermediate step. This could be very helpful for HITRAP and should not be much more work. The LabVIEW object already exists.
   * Data transfer via one DIM service should be sufficient. This means that the data has to be packed (png, jpeg, etc.).
   * There should then again be a button to easily switch between CCD-camera mode and the ICR techniques.
   * Parts of the analysis could be done outside of MM8 (to be discussed).
3. Modification of the PPG\_ABC class and integration into MM8:
   * It has to be checked if Jump-commands are possible without losing precision. If yes, this should be implemented and the MM8 configuration GUI has to be adjusted.
   * Nevertheless we have to check if the configuration of the time patterns in MM8 is as intuitive as it could be (see possibility of accessing more than 16 channels of one FPGA card)
   * Multi-Trigger operation: Means execution of different time patterns at different external triggers. This is maybe too much for the existing PPG class and a dedicated class should be developed.
4. Implement possibility for a non-equal step size during scans (maybe with the help of an external scan file in which all the steps are saved)?
5. Maybe it would be good to implement a button to quickly switch between Ramsay and Non-Ramsay excitation mode. (DN)
6. **DONE:** Waiting time defined for each detector. Add waiting time for the detector at the end of the cycle: It would be good to add the possibility for the cycle to wait until the detector is finished with the data acquisition. For example, now the user has to add an additional waiting time in the end when he uses an SR430 for data acquisition. If he forgets that, he just gets a 0 readout. But this should be optional, the MM8 GUI should wait for a configurable DIM\_service to change to 1 for example, the user has to able to abort the cycle during that waiting time, and the user should also be able to optional (!) include a time-out. (DN)
7. Name of the time letter used for calculating the excitation amplitudes should be configurable. Right now, one hast to use the word “excitation” (CD)
8. If several MM8 should run in one network it would be good to use only one set of configuration files (ini-file). Only for the xml files this has to be further discussed because they are not read-only, so this would mean that different users can overwrite them leading to much confusion. (DN)
9. Implementation of ELOG compatibility (DN)
10. The “try” button should always be accessible (DN)
11. I think there is a small bug in the Cnts vs Scan window: Make a dummy scan with ions: I have the feeling that when he restarts the scan he updates the first value he connects it with the second one from the last scan. This is confusing :) Was that always like that? (DN)
12. Would be nice to see the calculated total time of the cycle (DN)
13. Scanning of two channels of the same device produces a warning (DN)
14. Small bug in MM9 discovered: If one opens a “save window” the main MM9 window will be minimized or at least will go to the back.
15. MM6 and MM8/9 are using a different format for the paths in the MM6.ini. (Should it be MM9.ini?) Leads easily to confusion.
16. There should be a new “Special” part in the “Calib”-window, which can be used to calculate different timing entries in the timing table. The exact latter which is configured has to be adjusted in the timing table (but use something better than not documented “key-words” like “Cooling”). So, the communication of latter information from and to the timing table has to be easy and clear for the user. It should be also possible to configure formulas to calculate timing parameters. (DA)