MCh Data Management

Issue 0 – 28.05.2025

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Discussion Format

- Possible formats:
  - discussions (steps 1 & 2)
  - discussion + email / wiki (step 1 + step 4 / 6)
  - emails (steps 3 & 4)
  - wiki (steps 5 & 6)
  - wiki + email (step 5 + step 4)

- Discussions:
  - introduction of topics to think about or discuss (step 1)
  - discussion about the topics during the following Wednesday meeting (step 2)

- Emails:
  - writing a list of topics to think about or discuss and sending it through an email (step 3)
  - collecting replies from MCh researchers (step 4)

- Wiki:
  - writing a list of topics to think about or discuss on a dedicated mch-wiki page (step 5)
  - gathering replies via polls or discussion over the mch-wiki (step 6)

General Information

- MCh RDM templates:
  - accessible to every MCh employee
  - the up-to-date templates located on my “Exchange” disk:

J:\Fecik,Michal\rdm_templates

  - please, get familiar with the templates you will most likely use in future
  - once finished, the templates are going to be also uploaded to mch-wiki

All newly accepted changes will be mirrored in the templates and will be communicated via a selected channel (see below).

- How to be informed about changes:
  - short summary during Wednesday meetings
  - summary sent by email
  - summary provided on a dedicated mch-wiki page

Deposition Template(s)

- Units:
  - prefill (but allow editing) vs. offer prefilled selection to choose from (drop-down menu)?

- Gas Supply:
  - store gas flow (allow both % and SCCM) instead of just a partial pressure?
  - store also information about used mass flow controller (MFC)
  - allow keeping also the partial pressure?

- Magnetrons:
  - in what manner to store magnetron material & its composition
    - *example: “material system”: “Cr-Al-B”; “composition”: “0.78-0.22-2”*
  - store orientation of magnetrons
    - preferentially as a pictogram in a particular sheet of the template (other options?)
  - store information about pre-sputtering for each single magnetron, or just the chamber as a whole?
    - if pre-sputtering done
    - with what shutter
    - for how long
  - how to store sputter-cleaning information?
    - create a particular metadatum, or in comments?

Deposition Template(s)

- Substrate:
  - store origin of substrates?
  - how to store “no intended heating”? (add to description/comments, create specific metadata structure)
    - *example: “heating”: “yes”; “heater temperature”: “xyz” OR “heating”: “no”; “heater temp.”: --empty—*
  - substrate temperature related information:
    - add power of heating spiral(s) (case of CemeCon)
    - allow storing % of power for heating (case of Kybele)
    - store voltage & current on heating units (case of Jarvis or Garfield)

- Generators:
  - store maximal as well as current value of a fixed parameter (HPPMS mode)
  - two voltage or power channels for RF mode? (forward & reflected)

- General:
  - add comment metadata to store generic information? (formatting limitations, visually less distinct)
  - in what form store deposition material system?
    - *example: “material system”: “Cr-Al-B”*
  - store also expected or wanted composition?