Collaborative writing with Overleaf at TE-MPE-PE

Michał Maciejewski
on behalf of TE-MPE-PE

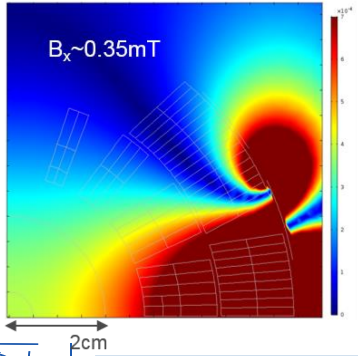
CERN

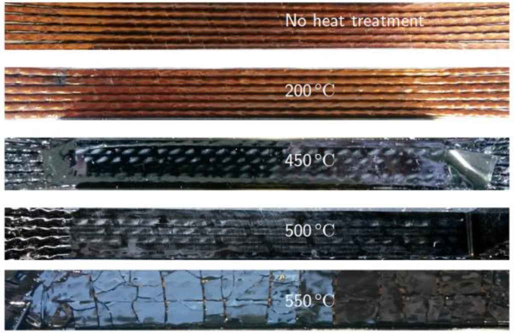
CERN TE-MPE-PE - "Technology" department, "Machine Protection and Electrical Integrity" group, "Performance and evaluation" section

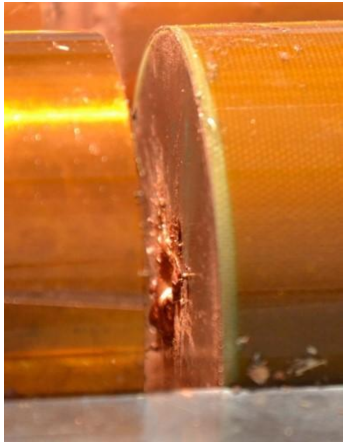
Courtesy: Arjan Verweij, Section Leader

R&D, studies, simulations, experiments and data analysis aiming to further enhance the operational performance of the LHC and to optimize performance of future accelerators

- Protection of superconducting magnets and circuits
- Development of STEAM
- Damage studies and impact of beams on machine equipment
- Reliability and availability studies of CERN's accelerator complex

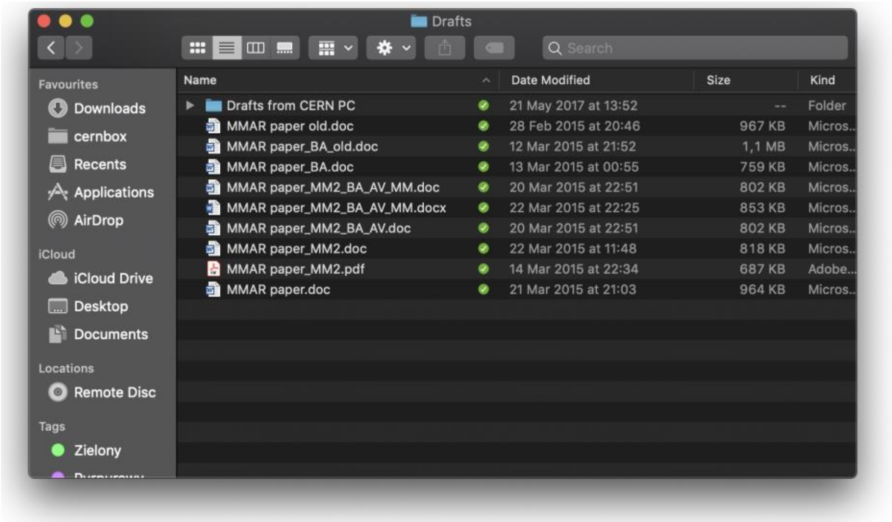


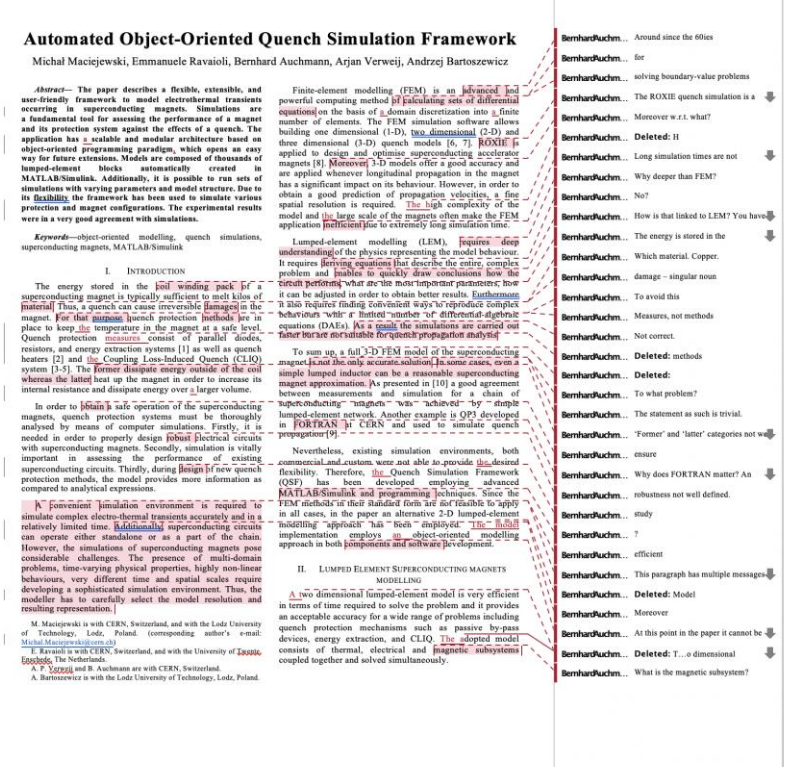




Our main product are the LHC performance evaluation studies carried out in a highly collaborative setting.

From e-mail collaboration…



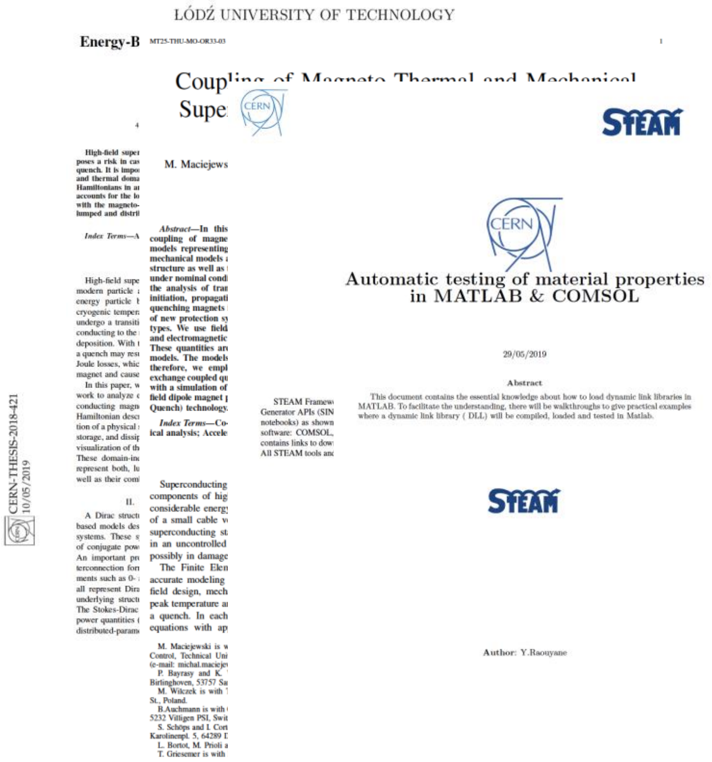


… to in-browser collaboration

We (10+ people) have written together 50+ documents over past 3 years:

- ✓ PhD, MSc, BSc theses
- ✓ Journal papers
- ✓ Internal notes
- ✓ Documentation
- ✓ Reports

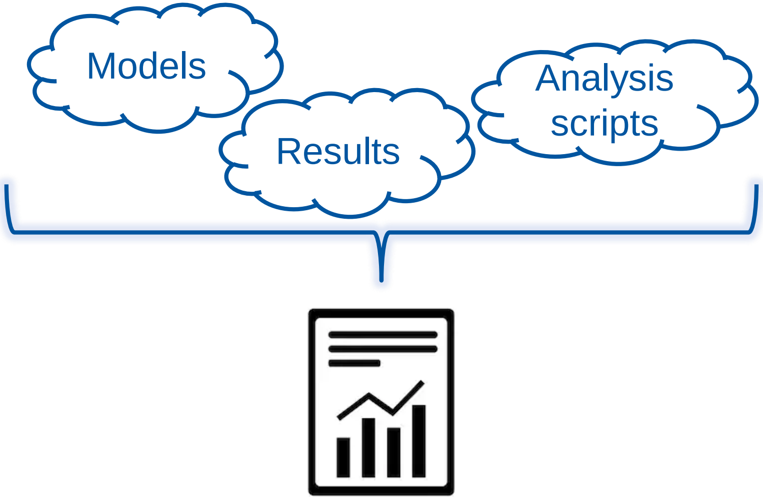
while collaborating with several institutes worldwide.



Where does it came from?

A typical modelling work includes

- ✓ creation of model,
- ✓ running some simulations
- ✓ post-processing results
- ✓ summarizing results
  (paper, report, presentation)



Often times the link between the plots, schematics and report is broken.

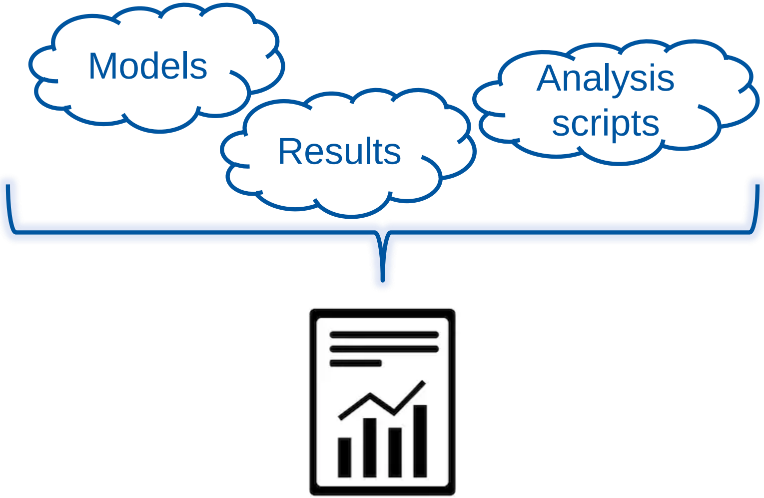
With the use of **tikzpicture**, part of these data can be integrated into a notebook.

This way a document becomes a repository of data queried to provide relevant information.

5. STEAM Frontend Notebooks
- *Models as repositories of data*

A typical modelling work includes

- ✓ creation of model,
- ✓ running some simulations
- ✓ post-processing results
- ✓ summarizing results (paper, report, presentation)

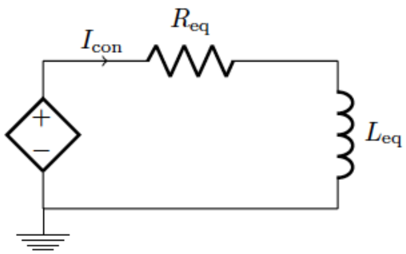


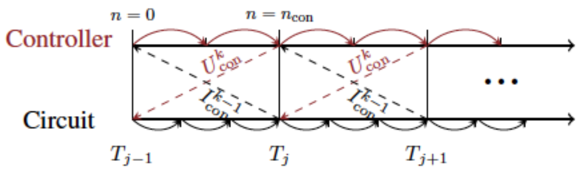
Often times the link between the plots, schematics and report is broken.

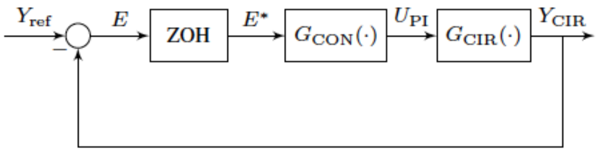
With the use of **tikzpicture**, part of this process can be integrated into a document.

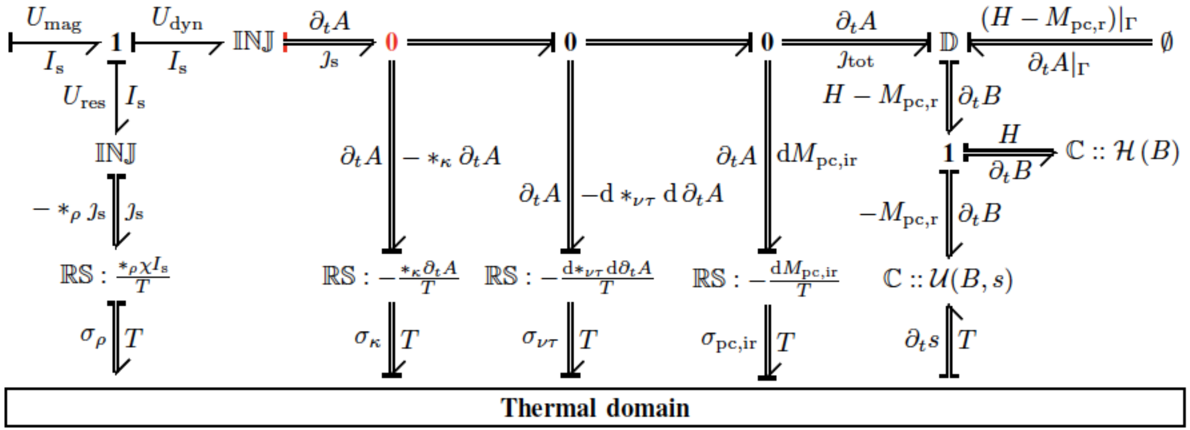
This way document becomes a repository of data queried to provide relevant information.

Integration of schematics in papers

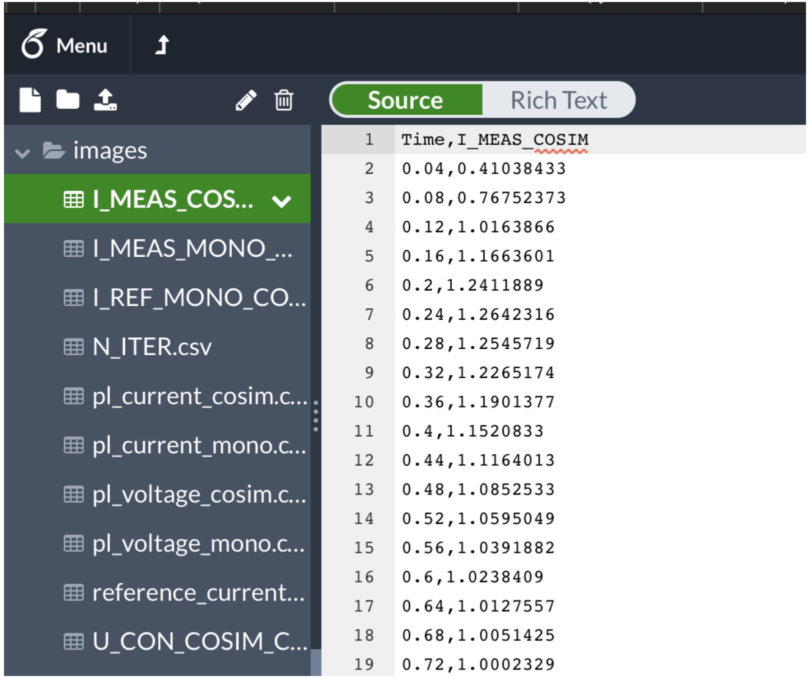


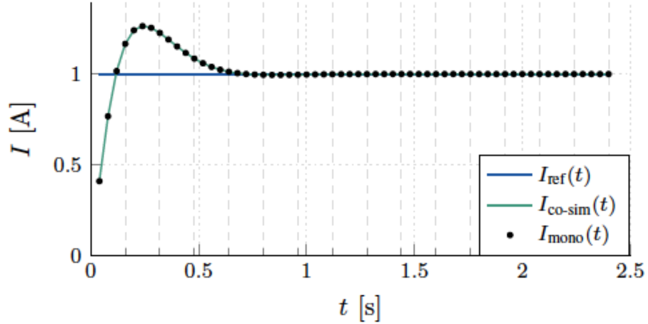


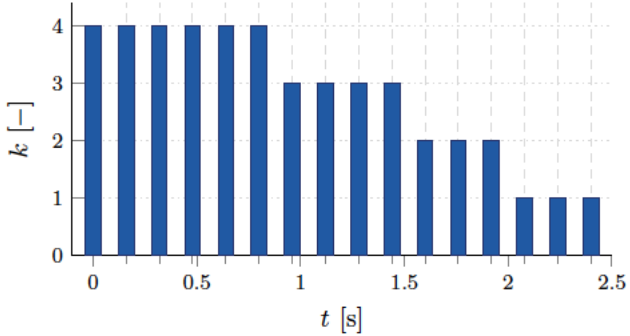




Integration of data in papers







Wishlist

1. Shared bibliography
2. Mode for view only (without code)
3. Transfer of rights between users
4. Linking documents to an e-group
5. Our templates in the main gallery

CERN