

RDC 8 Discussion

Announcements

- Please join our mailing list:
 - https://cpad-dpf.org/?page_id=1549
 - We will use the mailing list to communicate. Please sign up!
 - Please spread words to your colleagues

- We are searching for Novel Material/ Theory co-lead
 - Please contact us if you are interested

Discussions → Workshops → Work packages

We had good discussions in past two days. Common challenges were discussed:

1. The idea of collecting best practices for setting up cryogenic test facilities << also w/ RDC7
 - a. IR loading, EMI shielding, ground loop, connector to use etc.
 - b. Common/compatible setup across different groups?
2. The discussion on amplifiers needs
 - a. There was a supply that needs test facility
 - b. There was a demand with a test facility

→ **Consider organizing workshops to discuss these topics**

- Gather information, organize it in one place, distribute for everybody's access
- These workshops could also help us identify persistent issues that could be addressed through collaborative work (packages) that we can apply for funding.
- In a case of cryostat setup, we could imagine forming an annual summer school to instruct scientists on cryostat configuration for low-noise experiments.

We can develop a cycle:

Discussions to identify common challenges (meet every (other) month?) → workshop to dive deeper & refine → work packages

Survey #2 Ideas

- Interest for attending workshops
 - Cryostat best practices
 - Amplifier
 - Other workshop ideas.
- Common challenge (work package) ideas
 - We asked this in the survey #1, but let's gather more information
- Other suggestions?

Work package ideas (common challenges)

Pair breaking

- Cryogenic test facility setup - Readout electronics, best practices etc.
- Superconducting film R&D

Coherent

- Amplifier needs - Share experience & availability, collaborate to test

Clocks, interferometry, NMR, optomechanical

- Please suggest!

Novel Material & Theory

- Theoretical understanding and/or model of
 - Target material, Surface treatment (oxides), Interfaces

Other ideas?

- Optical fiber to chip coupling mechanism