

Hardware connections across fields: **concrete steps / suggestions on how to proceed** **to open a communication channel on hardware**

What are the most important hardware R&D challenges?

What are the synergies between different DM experiments?

**How to get information about similar technology R&D outside the
community?**

How to share technological advances within community?

How to create specific R&D interest with industry?

Hardware connections across fields:

What are the most important hardware R&D challenges?

What are

Thanks to Jochen Schieck

experiments?

(TU Vienna – Atominstitut)

How to get

for a very productive

R&D outside the

discussion!

How to share technological advances within community?

How to create specific R&D interest with industry?

Hardware connections across fields:

What are the most important hardware R&D challenges?

What are the synergies between different DM experiments?

→ Needs further input from other DM fields

How to get information about similar technology R&D outside the community?

How to share technological advances within community?

How to create specific R&D interest with industry?

Many challenging axion and ALP R&D sites:

Theory:

map the ground!

Magnets:

Crank'em up!

Precision & Cryo Eng.:

be precise, stay cool!

Dielectrics:

Tolerate no loss!

Astrophysics:

per aspera ad astra!

RF understanding:

stay tuned!

Computing:

Not only simulating

Quantum detectors:

Dig deeper!

Many potential synergies with other communities:

Gravitational wave detectors

medical physics

Quantum computing

Cryo-electron microscopy

solid state physics

Radio astronomy

accelerator physics

fusion research

light DM searches

neutrino experiments

Hardware connections across fields:

What are the most important hardware R&D challenges?

What are the synergies between different DM experiments?

→ Needs further input from other DM fields

How to get information about similar technology R&D outside the community?

How to share technological advances within community?

How to create specific R&D interest with industry?

Hardware connections across fields:

How to get information about similar technology R&D
outside the community?

How to share technological advances within community?

- ❖ Dedicated astro-particle hardware conference(s)?
- ❖ R&D based collaborations (like CALICE, Radiation hard semiconductors)
 - ❖ Tool (web based) to share info –
Needs pro-active moderation! (iDMEu/APPEC?)
 - ❖ Make better use of CERN infrastructure?
- ❖ List of failures needed! What has been tested unsuccessfully?

Hardware connections across fields:

What are the most important hardware R&D challenges?

What are the synergies between different DM experiments?

→ Needs further input from other DM fields

How to get information about similar technology R&D outside the community?

How to share technological advances within community?

How to create specific R&D interest with industry?

Hardware connections across fields:

How to create specific R&D interest with industry?

APPEC like Technology fora: Pro active invitation of companies and researchers

Communicate success stories: list of knowledge transfers

(KAT had prepared such a list – does anyone have this file?)