

TTC 2020 WG2 Summary

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WG2 Couplers and auxiliaries

Charge: Superconducting accelerator modules require more than just cavities. The goal of this working group is to exchange knowledge and ideas related to recent developments in the field of fundamental power and HOM couplers, including feedthroughs. Frequency tuners, usually operated at cold, are required also. What are the most recent designs? High Q cavities, discussed in WG-1, require sufficient magnetic hygiene; this holds not only for testing condition but also in the real accelerator environment. Recent developments should be reported.

WG2 speakers from worldwide



	CETD	Masao Irikura
	KEK	Yasuchika Yamamoto
	RIKEN	Kazutaka Ozeki
	RIKEN	Kenji Suda
	IBS	Sangbeen Lee
	IHEP	Tongming Huang (remote)
	THALES	Stephane Bethuys
	RI	Daniel Trompetter
	HZB	Emmy Sharples
	DESY	Denis Kostin
	CERN	James Mitchell
	CEA	Christian Arcambal
	CEA	Guillaume Devanz
	CPI	Steve Einarson
	BNL	Doug Holmes
	BNL	Wencan Xu
	JLAB	Mircea Stirbet
	FNAL	Yuriy Pischnalnikov
	FRIB	Sang-hoon Kim

WG2 talks cover a wide range of applications

We have been impressed by the large spectrum of items and devices presented

CW and Pulsed

Low, medium, high power levels

Frequency range from MHz to GHz

All kinds of accelerators

Electron storage rings

Electron linac light source

Hadron colliders

Heavy-ion linacs

Valid for FPCs (and Tuners)

Provocative topics

Is coupler conditioning really necessary for medium power CW applications?

Should a FPC design last for decades?

Do we condition couplers long enough?

One window vs two windows

Standardization

**Some very interesting provocative topics,
Not solid answers as of today.
We will continue to debate on them (for years...)**

Surprised that almost all projects faced unexpected failures of the
classic windows

Coupler Vendor Experience

Appreciate their presentations as providing usually
'private' information

Even though the competitors are in the same room

Thank you very much to all the vendors

Sugg
Inv
Rel
Ask
Care

**Conveners conclusion: provide realistic
technical specifications (e.g. not just
from simulations)**

... requires, do not over-specify



To be continued...

Very interesting topics, four sessions of 90 minutes were not enough to deal with all aspects of FPCs, HOM couplers, Tuners...

We would like to invite you to these workshops for designated topics

Worldwide FPC meeting

Microphonics and resonance control workshop

ICFA mini-workshop on HOM damping in superconducting cavities

2nd Workshop on Operating SRF Systems Reliably in a "Dirty" Machine

Thanks to you All!