

Hot topic discussion: Challenges for conduction-cooled SRF cavity technology

- **Introduction:**

- The current “state-of-the-art” for **conduction-cooled SRF cavity technology**

- **Presentations (< 3 min.) on individual topics with ≤ 2 slides and Discussions:**

1. **Choice of cryocoolers:**

- GM, PT, GM-JT

2. **Thermal link design:**

- Cu straps, Al bars, composites...

3. **Nb₃Sn thin film performance:**

- a) Nb₃Sn on Cu
- b) Nb₃Sn on Nb (including contamination from NbTi flanges)

4. **Tunability of Nb₃Sn coated cavities:**

- Warm tuning, cold tuning, handling...

5. **Low-Loss FPC**

- Single-window, double-window, rf shield, beamline coax, side-port coax...

6. **Thermoelectric magnetic flux**

- Thermal-current induced B-field in bi-metallic layers, Trapped flux sensitivity

Hot Topic Session: Speaker's List

Updated. 2023/11/27









Category	Name	Institute	Speaker confirmed	Specific Note	Time [min]
• Introduction	Gianluigi Ciovani	JLab	yes	State-of-the-art	10~15
1. Choice of cryocoolers	1a) Tomohiro Yamada	KEK	yes	Comparison of GM and GM-JT	3
	1b) Ram Dhuley	FNAL	yes		3
	1c) Roman Kostin	Euclid Tech.	yes	Why ET decided to use GM cooler ?	3
	1d) Ziqin Yang	IMP	J. Hao	Vibration and ...	3
2. Thermal Link design	2a) Neil Stilin	Cornell U.	yes		3
	2b) Tomohiro Yamada	KEK	yes	Conduct. cooling and RF test w/ Cu ring	3
	2c) Ram Dhuley	FNAL	yes	Why ET decided to use Nb equator ring ?	3
	2d) Roman Kostin	Euclid	yes		3
	2e) Thomas Proslie	CEA-Saclay	yes	3D-printing and ...	3
3a. Nb₃Sn on Cu thin-film performance	3aa) Cristian Pira	INFN	yes		3
	3ab) Shawn McNeal	Ultramet	yes		3
3b. Nb₃Sn on Nb thin-film performance	3ba) Uttar Pudasaini	JLab	yes		3
	3bb) Jiankui Hao	PKU	yes		3
	3bc) Liana Shpani	Cornell	N. Stilin		3
4. Tunability / robustness of Nb₃Sn	4a) Grigory Ereemeev	FNAL	yes		3
					(55~60)

+ General Discussions

Indico Page : Hot Topic Session

Files are sub-grouped

Presentation materials

-  00) Agenda-F.pdf
-  00) Introduction_G.Ciovati.pdf
-  01] CryoCooler-ass.pdf
-  02) Thermal-Link-ass.pdf
-  03A,B) Nb₃Sn-on-Cu,Nb-ass.pdf
-  03B) Nb₃Sn-on-Nb-ass.pdf
-  04) Tunability_Nb₃Sn, Gen, Discussions-ass.pdf
-  0a) Intro to Hot Topic_Ciovati_120123 (1).pptx