

Quantum Technologies for Fundamental Physics

Sunday, September 3, 2023

Superconducting cavities, materials, and quantum technology for detection of weakly-coupled particles: Session 1 (9:00 AM - 10:35 AM)

-Conveners: Yoni Khan

time	[id] title	presenter
9:00 AM	[27] Introduction	KHAN, Yoni
9:10 AM	[33] Opportunities for SRF Cavities in the ADMX-EFR Project	CAROSI, Gianpaolo
9:30 AM	[29] Enabling role of SRF cavities as physics detectors: example of DarkSRF	ROMANENKO, Alexander
9:45 AM	[37] SERAPH: Wavelike Dark Matter Searches with SRF Cavities	CERVANTES, Raphael
10:00 AM	[31] Advances in SRF cavity architectures for quantum computing and sensing	ROY, Tanay
10:15 AM	[32] Search for sub-GeV Dark Matter using superfluid ^3He at ultralow temperatures	CASEY, Andrew

Superconducting cavities, materials, and quantum technology for detection of weakly-coupled particles: Session 2 (11:30 AM - 1:10 PM)

-Conveners: Caterina Braggio

time	[id] title	presenter
11:35 AM	[30] Novel Materials for High Coherence Superconducting Quantum Devices	BAL, Mustafa
11:50 AM	[34] How to detect axion dark matter ... for real	CHOU, Aaron
12:10 PM	[36] Dark matter detection with trapped ions	RAMANI, Harikrishnan
12:30 PM	[28] Quantum sensing with cavities and more	MAROCCO, Giacomo
12:50 PM	[35] Entering the quantum utility era: how to best mitigate noise on quantum computers?	MANISCALCO, Sabrina

Superconducting cavities, materials, and quantum technology for detection of weakly-coupled particles: Session 3 (3:00 PM - 4:30 PM)

-Conveners: Claudio Gatti

time	[id] title	presenter
3:00 PM	[38] A search for dark matter axions with a transmon-based single photon counter	BRAGGIO, Caterina
3:15 PM	[39] Axion dark matter search with high-temperature superconducting cavities	CHUNG, Woohyun
3:35 PM	[40] Nb_3Sn for axion searches	POSEN, Sam
3:50 PM	[41] First Results from BREAD Dark Photon Search	SONNENSCHN, Andrew

4:10 PM

[42] Discussion