Sixteenth Marcel Grossmann Meeting

Monday, 5 July 2021

Variation of the Fundamental Constants, Tests of the Fundamental Symmetries and Probes of the Dark Sector: Block 1

(16:30 - 19:30)

-Conveners: Victor Flambaum; Yevgeny Stadnik

time	[id] title	presenter
16:30	[898] Precision isotope-shift spectroscopy in neutral Yb and joint Yb/Yb$^+$ King-plot analysis	Dr ANTYPAS, Dionysios
17:00	[39] Axion Quark Nuggets and Matter-Antimatter asymmetry as two sides of the same coin: theory, observations and future experimental searches	ZHITNITSKY, Ariel
17:30	[737] Towards the test of local Lorentz invariance with ^{172}Yb$^+$ ion Coulomb crystals	YEH, Chih-Han
18:00	[977] Constraining modified gravity with quantum optomechanics	Dr QVARFORT, Sofia
18:30	[986] Linking the lithium problem and the H_0 tension: the gravitational constant at BBN	FRANCHINO-VIÑAS, Sebastián
19:00	[1071] Probing the TeV scale and beyond via particle electric dipole moments	Prof. DEMILLE, David

Tuesday, 6 July 2021

Variation of the Fundamental Constants, Tests of the Fundamental Symmetries and Probes of the Dark Sector: Block 2

(09:30 - 12:30)

-Conveners: Victor Flambaum; Yevgeny Stadnik

time	[id] title	presenter
09:30	[103] Variation of the fundamental constants, violation of the fundamental symmetries and dark matter	FLAMBAUM, Victor
10:00	[691] Testing Fundamental Physics and Searching for Dark Matter using Precision Resonators and Oscillators	TOBAR, Michael
10:30	[92] Atomic clocks sensitive to variation of the fine structure constant.	DZUBA, Vladimir
11:00	[891] Test of gravitational redshift with optical lattice clocks and their applications to relativistic geodesy	TAKAMOTO, MASAO
11:30	[266] Varying fundamental constants and dark energy in the ESPRESSO era	MARTINS, Carlos
12:00	[1074] Studies of Exotic Physics with Antiprotons and Protons	ULMER, Stefan

Thursday, 8 July 2021

Variation of the Fundamental Constants, Tests of the Fundamental Symmetries and Probes of the Dark Sector: Block 3

(16:30 - 19:30)

-Conveners: Victor Flambaum; Yevgeny Stadnik

time	[id] title	presenter
16:30	[31] New bounds on macroscopic scalar-field topological defects from non-transient signatures due to environmental dependence and spatial variations of the fundamental constants	STADNIK, Yevgeny
17:00	[285] Dark matter searches with atomic and nuclear clocks	SAFRONOVA, Marianna
17:30	[116] Improved Limits for Violations of Local Position and Local Lorentz Invariance from Atomic Clock Comparisons	PEIK, Ekkehard
18:00	[20] Direct limits for scalar field dark matter from a gravitational-wave detector	VERMEULEN, Sander
18:30	[835] Towards precision tests of fundamental physics using a highly-charged-ion optical clock	Dr KING, Steven A.
19:00	[430] Zero-dead-time Differential Spectroscopy Beyond the Laser Coherence Limit	MCGREW, W. F.