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TECHNICAL PROGRAM: MONDAY

7:00 – 18:00

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TECHNICAL PROGRAM: TUESDAY

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Next Generation Silicon Photonics

Room: Grand Sierra FGH1

Chair: Donley, Elizabeth A. (NIST)

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Room: Grand Sierra DE

TECHNICAL PROGRAM: WEDNESDAY

7:00 – 16:00

Registration

8:40 – 10:00

Plenary Session 3: Morgan Mitchell (ICFO-The Institute of Photonic Sciences)

Sensing with Squeezed and Entangled States of Light and Atoms

Room: Grand Sierra FGHI

Chair: Kitching, John (NIST)

10:00 – 10:40

Coffee Break

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Room: Grand Sierra FGH1

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Room: Curacao 2/3/4

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Room: Curacao 6/7/8

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16:00 – 17:00

Student Reception

Room: Curacao 1

17:00 – 22:00

Gala Dinner: The Kennedy Space Center

Buses leave promptly at 5:00 PM

TECHNICAL PROGRAM: THURSDAY

7:00 – 13:00

Registration

8:40 – 10:20

ThAT1: Advanced Microacoustics

Room: Bonaire 5/6

Chair: Reinhardt, Alexandre (CEA-LETI)

9:00-9:20

Support Transducer Enabled Single-Resonator Channel-Select Filters....417

Pillai, Gayathri (National Tsing Hua University), Chen, Chao-Yu (National Tsing Hua University), Li, Sheng Shian (National Tsing Hua University)

9:20-9:40

On the Coupling Coefficient of ScyAl_{1-y}N-Based Piezoelectric Acoustic Resonators....419

Zhao, Xuanyi (Northeastern University), Cassella, Cristian (Northeastern University)

9:40-10:00

Thickness-Harmonic Cross-Sectional Quasi Lamé Modes in Composite Piezo-Silicon Resonators....423

Shahraini, Sarah (University of Central Florida), Mansoorzare, Hakhamanesh (University of Central Florida), Abdolvand, Reza (University of Central Florida)

10:00-10:20

High-Q X-Band Aluminum Nitride Combined Overtone Resonators....426

Chen, Guofeng (Northeastern University), Rinaldi, Matteo (Northeastern University)

8:40 – 10:20

ThAT2: Magnetic Resonance and Microwave Ion Clocks

Room: Bonaire 7/8

Chair: Burt, Eric (Jet Propulsion Laboratory)

8:40-9:00

Enhanced Stability in Micro Mercury Trapped Ion Clock....429

Hoang, Thai (Jet Propulsion Laboratory), Chung, Sang (Jet Propulsion Laboratory), Le, Thanh (Jet Propulsion Lab), Prestage, John (Caltech/JPL), Yi, Lin (California Institute of Technology), Tjoelker, Robert (Caltech Jet Propulsion Laboratory), Yu, Nan (Jet Propulsion Laboratory)

9:00-9:20

Progress towards a Commercial 171Yb+ Microwave Atomic Frequency Standard....431

Tallant, Jonathan (Microsemi, a Microchip Company), Noble, Jay (Microsemi, a Microchip Company), Guan, David (Microsemi, a Microchip Company), Dao, Nakri (Microsemi, a Microchip Company), Overstreet, K. Richard (Microsemi, a Microchip Company)

10:00-10:20

Progress towards a Cadmium Ion Microwave Clock: Improvement of the Signal-ToNoise Ratio of the Clock Signal Based on Sympathetic Cooling....437

Zuo, Yani (Tsinghua university), Han, Jize (Tsinghua University), Zhang, Jianwei (TSINGHUA UNIVERSITY)

8:40 – 10:20

ThAT3: Fiber Network Applications

Room: Curacao 2/3/4

Chair: Calonico, Davide (INRIM)

08:40-09:20

Earthquakes Detection with Optical Fibers (I)....439

Clivati, Cecilia (INRIM), Marra, Giuseppe (NPL), Baptie, Brian (BGS), Kronjaeger, Jochen (NPL), Levi, Filippo (Inrim), Luckett, Richard (BGS), Mura, A (INRIM), Robinson, Stephen (NPL), Wright, Louise (NPL), Xuereb, André (University of Malta), Calonico, Davide (INRIM)

09:20-09:40

REFIMEVE+ : Optical Frequency Dissemination Over 2x1300 Km of a Telecom Network....441

Cantin, Etienne (LNE-SYRTE, Observatoire De Paris), Lopez, Olivier (Laboratoire De Physique Des Lasers), Amy-Klein, Anne (Université Paris 13 - CNRS), Chardonnet, Christian (Laboratoire De Physique Des Lasers), Tonnes, Mads (Observatoire De Paris), Meynadier, Frédéric (Observatoire De Paris), Pottier, Paul-Eric (LNE-SYRTE Observatoire De Paris), Quintin, Nicolas (RENATER), Camisard, Emilie (RENATER), Santarelli, Giorgio (LP2N), Guillou-Camargo, Fabiola (MUQUANS), Menoret, Vincent (MUQUANS), Desruelle, Bruno (Muquans)

10:00-10:20

Optical Fiber Trans-National Time Transfer for Comparing Two UTC Realisations....444

Dierikx, Erik (VSL), Xie, Yan (VSL), Veghel, Marijn van (VSL), Koelemeij, Jeroen (OPNT), Tour, Chantal van (OPNT), Savencu, Adrian (OPNT), Weber, Jos (CGI), Plantinga, Arjen (CGI), Burger, Bernd (CGI), Waller, Pierre (ESA/ESTEC), Valceschini, Raphael (ESA-ESTEC), Coutereel, Frank (FOD Economie, SMD), Piree, Hugo (FOD Economie, SMD)

8:40 – 10:20

ThAT4: Stable Lasers

Room: Curacao 6/7/8

Chair: Legero, Thomas (Physikalisch-Technische Bundesanstalt (PTB))

8:40-9:00

Laser Frequency Stabilization Based on Spectral-Hole Burning Using Double-Heterodyne Detection....446

Galland, Nicolas (Univ. Grenoble Alpes, CNRS Grenoble INP and Institut Néel), Lučić, Nemanja (LNE-SYRTE, Observatoire de Paris), Fang, Bess (LNE-SYRTE, Observatoire de Paris), Álvarez-Martínez, Héctor (Real Instituto y Observatorio de la Armada), Le Targat, Rodolphe (Observatoire de Paris), Ferrier, Alban (PSL Research University, Chimie ParisTech, CNRS Institut de Recherche de Chimie Paris), Goldner, Philippe (PSL Research University, Chimie ParisTech, CNRS Institut de Recherche de Chimie Paris), Seidelin, Signe (Univ. Grenoble Alpes, CNRS Grenoble INP and Institut Néel), Le Coq, Yann (LNE-SYRTE - Observatoire de Paris)

9:20-9:40

Crystalline Coating Loss Angle Measurement Via Mechanical Ringdown on Large-Area Samples....448

Cole, Garrett (Crystalline Mirror Solutions LLC), Penn, Steven (Hobart and William Smith Colleges), Kinley-Hanlon, Maya (American University), MacMillan, Ian (Georgetown University), Heu, Paula (Crystalline Mirror Solutions LLC), Follman, David (Crystalline Mirror Solutions LLC), Deutsch, Christoph (Crystalline Mirror Solutions GmbH), Harry, Gregg (American University)

9:40-10:00

Linear Zeeman Effect on Iodine-Based Frequency Stabilized Laser....450

Barbarat, Joannes (SYRTE / Observatoire De Paris), Gillot, Jonathan (SYRTE / Observatoire De Paris), Álvarez-Martínez, Héctor (LNE-SYRTE, Observatoire De Paris), Le Targat, Rodolphe (Observatoire De Paris), Pottier, Paul-Eric (LNE-SYRTE Observatoire De Paris), Tuckey, Philip (Observatoire De Paris), Acef, Ouali (CNRS / Observatoire De Paris), Hrabina, Jan (ISI / Academy of Sciences of the Czech Republic), Pham Minh, Tuan (ISI / Academy of Sciences of the Czech Republic)

10:20 – 10:40

Coffee Break

Room: Grand Sierra DE

10:40 – 12:20

ThBT1: Quartz and MEMS Oscillators

Room: Bonaire 5/6

Chair: Kubena, Randall (HRL Labs)

11:20-11:40

A 300-500 MHz Tunable Oscillator Exploiting Ten Overtones in Single Lithium Niobate Resonator....453

Kourani, Ali (University of Illinois at Urbana Champaign), Lu, Ruo Chen (University of Illinois at Urbana-Champaign), Gao, Anming (University of Illinois at Urbana-Champaign), Gong, Songbin (University of Illinois at Urbana Champaign)

11:40-12:00

A Low-Power Deterministic Approach to Jitter Suppression in MEMS-Based Real-Time Clocks....457

Mussi, Giorgio (Politecnico di Milano), Frigerio, Paolo (Politecnico di Milano), Gattere, Gabriele (STMicroelectronics), Langfelder, Giacomo (Politecnico di Milano)

12:00-12:20

Polysilicon MEMS Resonator for 28-MHz Oscillators....461

Mussi, Giorgio (Politecnico di Milano), Carrara, Mattia (Politecnico di Milano), Gattere, Gabriele (STMicroelectronics), Langfelder, Giacomo (Politecnico di Milano)

10:40 – 12:20

ThBT2: Physical Sensors

Room: Bonaire 7/8

Chair: Popa, Laura (Analog Devices)

11:00-11:20

Very High-Q Resonant MEMS for Liquid-Phase Bio-Sensing....464

Mansoorzare, Hakhamanesh (University of Central Florida), Moradian, Sina (University of Central Florida), Abdolvand, Reza (University of Central Florida)

11:20-11:40

Ultra-Fine Particulate Detection Using Mode-Localised MEMS Resonators....467

Chellasivalingam, Malar (University of Cambridge), Kalberer, Markus (University of Cambridge)

10:40 – 12:20

ThBT3: Time Scales and Algorithms

Room: Curacao 2/3/4

Chair: Levine, Judah (NIST)

10:40-11:00

Generating a Real-Time Time Scale with an Ensemble Clock and a Primary Frequency Standard....472

Galleani, Lorenzo (Politecnico di Torino), Signorile, Giovanna (Istituto Nazionale di Ricerca Metrologica), Valerio, Formichella (INRIM), Sesia, Ilaria (Istituto Nazionale di Ricerca Metrologica)

10:40 – 12:20

ThBT4: Lattice Clocks II

Room: Curacao 7/8/9

Chair: Lodewyck, Jérôme (LNE-SYRTE, Observatoire De Paris)

11:20-11:40

Status Report on an ^{171}Yb Optical Lattice Clock at NMIJ....474

Kobayashi, Takumi (National Metrology Institute of Japan), Akamatsu, Daisuke (National Metrology Institute of Japan), Hisai, Yusuke (Yokohama National University), Tanabe, Takehiko (National Metrology Institute of Japan), Inaba, Hajime (National Metrology Institute of Japan), Suzuyama, Tomonari (National Metrology Institute of Japan), Hong, Feng-Lei (Yokohama National University), Hosaka, Kazumoto (National Metrology Institute of Japan), Yasuda, Masami (National Institute of Advanced Industrial Science and Technology (AIST))

11:40-12:00

Background Gas Collisional Shift on Lattice-Trapped Strontium Atoms....476

Ximenez Rodrigues Alves, Bruno (Observatoire de Paris)

14:00 – 18:00

Optional Tour: Wild Florida

Buses leave promptly at 2:00 PM