





Public announcement of Collaborative Research, Phase 2

2025.04.16

Research Theme	Vibrational polaritons in open cavities for novel phenomena with photonic vacuum fields		
Research Period	Jan. 1, 2023 - Dec. 31, 2024		
Researcher Information	Technion		Lev Chuntonov Associate Professor Faculty of Chemistry
	Tokushima Univ.		Taka-aki Yano Professor Institute of Post-LED Photonics
Publication List (Published Papers, conference, presentations, etc)	<ul style="list-style-type: none"> • Shmuel Sufrin, Bar Cohn, <u>Lev Chuntonov</u>, "Probing the anharmonicity of vibrational polaritons with double-quantum two-dimensional infrared spectroscopy" <i>Nanophotonics</i>, 13, 2523 (2024). • Tatsuya Fukuta, Ryo Kato, Takuo Tanaka, <u>Taka-aki Yano</u>, "Fabrication of Mie-resonant silicon nanoparticles using laser annealing for surface-enhanced fluorescence spectroscopy" <i>Microsyst. Nanoeng.</i> 10, 45 (2024). 		

Public announcement of Collaborative Research, Phase 1

2023.05.25

Research Theme	Near IR resonant absorption for luminescent solar power		
Research Period	Jan. 1, 2021 - Dec. 31, 2022		
Researcher Information	Technion		Carmel Rotschild Associate Professor Faculty of Mechanical Engineering
	Tokushima Univ.		Taka-aki Yano Professor Institute of Post-LED Photonics
Publication List (Published Papers, conference, presentations, etc)	<p>Patent</p> <ul style="list-style-type: none"> • C. Rotschild, J. Cassell, Heat engine for heat sources such as solar energy and wasted heat, Provisional Patent Application No. 63/074,485 (Sep. 2020) • 7 different patents on the heat engine were submitted as provisional applications. <p>Invited talk</p> <ul style="list-style-type: none"> • T. Yano, "All-dielectric metamaterial reflectors for highly-sensitive infrared spectroscopy," A3 Metamaterials Forum, Seoul, Korea, June 27-29, 2022. <p>Publication</p> <ul style="list-style-type: none"> • T. Tanaka, T. Yano, and R. Kato, "Nanostructure-enhanced infrared spectroscopy," Nanophotonics 11, 2541-2561 (2022). 		