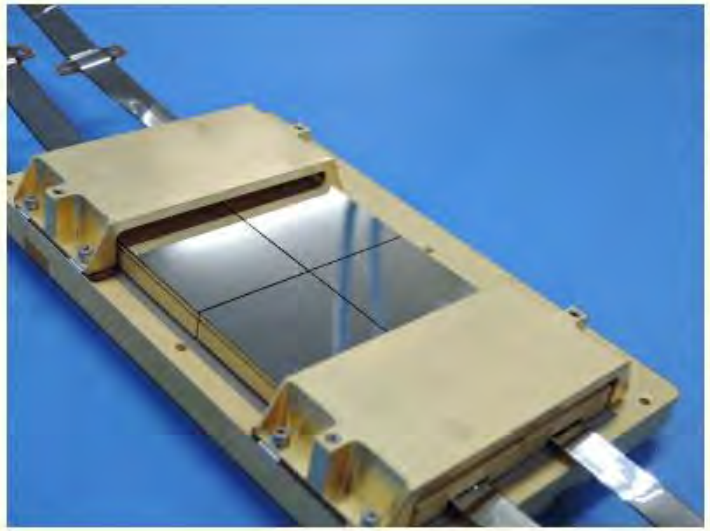
QBI2023
第５回「量子線イメージング研究会」

The 5th Workshop on Quantum Beam Imaging



大阪大学豊中キャンパス・理学研究科・南部陽一郎ホール
Osaka university, Graduate school of science, Nambu-Yoichiro hall

Sept. 28(Thr) – 29(Fri), 2023

Summary & Closing Remarks

常深 博 Hiroshi Tsunemi (Osaka U., SOC Chair)

Purpose of the meeting

赤外線・X線・ガンマ線等の光子や、電子、中性子、分子、イオンといった量子線を検出・解析する科学技術は、素粒子・原子核物理学、宇宙物理学、物質科学から生命科学、医学にいたる広い分野で重要な貢献を果たしてきました。近年、これらの領域のイメージング検出技術が著しく発展しています。また、理学・工学や産官学の連携も進み、新展開が生まれつつあります。ここに、分野を横断して「量子線イメージング」を議論する場を設け、科学技術の発展と新分野の創成を目指した研究会を開催します。

Scientific and technological advancements in detecting and analyzing quantum beam such as photons (infrared, X-rays, gamma rays), electrons, neutrons, molecules, and ions have made significant contributions in a wide range of fields, including particle and nuclear physics, astrophysics, materials science, life sciences, and medicine. In recent years, imaging technologies in these areas have seen remarkable development. Collaboration between the fields of natural sciences, engineering, and industry-academia has also progressed, leading to new breakthroughs. The purpose of our conference is to provide a platform for discussion from the perspective of "Quantum Beam Imaging (QBI)" that cuts across various fields. Then, we expect to promote the development of scientific technology and create new fields of study through interdisciplinary information exchange.

The participants of the research conference are young researchers, including graduate students, as well as researchers who actively engage in research and development in their respective fields and senior researchers who lead research groups. The conference also welcomes researchers who explore QBI technologies based on basic principles, regardless of whether they are from academic fields or aim for practical applications in industry. Therefore, in terms of presentation content, we expect discussions on state-of-the-art results of the QBI that contribute to achieving the objectives of each field, exploring the applicability based on the unique principles and know-how of each field and identifying commonalities with other fields. In other words, the audience may have an understanding of the principles of physics but may not necessarily be experts in that specific field. We would appreciate if you could keep this in mind and provide necessary introductions as needed. Additionally, if you think it useful to explain applications in the relevant field, we expect a brief overview to be provided.

プログラム 2023年9月21日 10:25分版

	座長				講演者			タイトル
9月28日	山谷	13:00	13:10	opening	LOC (松本)			
		13:10	14:10	基調講演1	Steve Holland	LBNL		Fully Depleted Charge-Coupled Devices for Scientific Applications including Single-Electron Detection
		14:10	14:40	招待講演1	大田良亮	浜松ホトニクス		Reconstruction-free positron emission imaging using ultrafast detectors
		14:40	14:55	一般講演	中村勇	KEK		KEK PF-AR測定器開発テストビームラインの紹介
		14:55	15:10	break				
	片山	15:10	15:40	招待講演2 (online)	石田高史	名古屋大学		Development of high-speed electron-beam imaging using SOI image sensors
		15:40	16:10	招待講演3	Sundararajan Balasekaran	住友電工		"Development of Type-II Superlattice image sensors for high-sensitivity applications"
		16:10	16:25	学生講演	Toshiya Iwata/岩田季也	The University of Tokyo/東京大学	D1	Development of the X-ray imaging polarimeter using micro-pixel CMOS imager
		16:25	16:40	学生講演	小林竜也	静岡大学大学院総合科学技術研究科	M2	変調率を改善した高近赤外感度SOIロックインピクセルの提案
		16:40	16:55	学生講演	Hiroumi Matsuhashi	University of Tokyo	M1	Evaluation of on-chip ADC installed on the X-ray SOI pixel detector
		16:55	17:05	写真撮影				

	座長				講演者			タイトル
9月29日	高橋	9:00	10:00	基調講演2	Kai Vetter	LBNL		3-D gamma-ray imaging: From constraint to unconstraint motions

Award for students' presentations (QBI2023 Best presentation award)

Students' presentations have been reviewed and the award (QBI2023 Best Presentation Award) will be given to the best student presentation.

Who is the Winner in the 5th Workshop on Quantum Beam Imaging?

Who is *****

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Who is the Winner in the 5th Workshop on Quantum Beam Imaging?

Who is Mio AOYAGI

Graduate school of Science

Osaka University

In honor of excellent presentation:

New CCD driving method of Xtend onboard the XRISM satellite for suppressing external charge intrusion

SOC

- 常深博（大阪大）
- 新井康夫（KEK）
- 大久保雅隆（産総研）
- 片山晴善（JAXA）
- 高橋忠幸（東京大 IPMU）
- 鶴　剛（京都大）
- 中村哲（東大）
- 初井宇記（理研）
- 宮崎聡（国立天文台）
- 山谷泰賀（量子科学技術研究開発機構）
- 安富啓太（静岡大）
- 松本浩典（大阪大）

LOC

松本浩典、小高裕和、野田博文 (大阪大)

共催・後援

共催: 大阪大学大学院理学研究科

後援: 日本物理学会、日本天文学会、高エネルギー宇宙物理連絡会

科研費基盤A　23H00128 「銀河と巨大ブラックホールの共進化の謎を暴く高角度分解能硬X線望遠鏡の開発」

第5回量子線イメージング研究会に参加いただきありがとうございました。
2024年度もF2Fで開催できますように、です。

詳細は検討中

2024年度は理科大で開催を予定します。