

# The Joint International Conference on Applied Physics and Materials Applications & Applied Magnetism and Ferroelectrics (ICAPMA-JMAG-2021) 参加報告

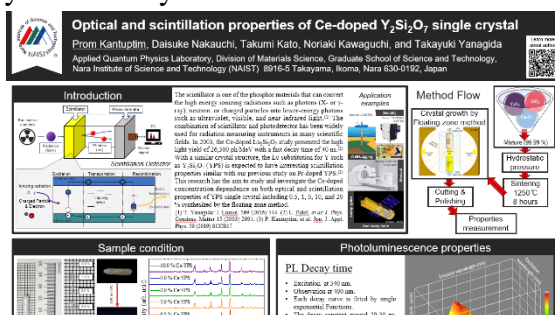
先端科学技術研究科 量子物理工学研究室 博士後期課程3年 Kantuption Prom

With the generous sponsorship from the Foundation for Nara Institute of Science and Technology, I was able to present my research at The Joint International Conference on Applied Physics and Materials Applications & Applied Magnetism and Ferroelectrics (ICAPMA-JMAG-2021) held in Pattaya city, Thailand from 1<sup>st</sup> to 4<sup>th</sup> December 2021. This meeting is one of the leading academic conferences in the Southeast Asia region for materials science and applied physics, including my focus field of radiation physics and chemistry. Where the participants such as graduated students, researchers, and professors around the world gather to present their novel research and discoveries. I had countless opportunities to discuss with professionals from the same field of study at this conference.

In the session on Radiation Physics and Chemistry, Instrumentation, and Materials Characterization, I gave a poster presentation titled “Optical and scintillation properties of Ce-doped  $Y_2Si_2O_7$  single crystal”. In short, this research is about  $Y_2Si_2O_7$  single crystal with the selected range of Ce-concentration from 0.5 to 10.0 %. Both photoluminescence and scintillation properties have been systematically measured. One of the

notable results were the highest absolute scintillation light yield of Ce-doped  $Y_2Si_2O_7$  in this study reaches up to 17,200 ph/MeV. The optimal Ce-concentration in YPS single crystal for scintillation purposes is 2.0 mol%. From all of the investigated properties in this study combined, the Ce-doped YPS is becoming one of the good candidates for a novel scintillator in the professional fields, which required fast decay time, low afterglow, and moderate scintillation light yields such as  $\gamma$ -ray spectrometer and scintillation detector for medical applications.

The mentioned presentation was selected for a poster presentation award for the exceptional 27 posters in the entire conference. Moreover, this presentation topic had been invited to publish in ICAPMA-JMAG 2021 special issue of the Radiation Physics and Chemistry Journal. The collaborative meeting with Thai laboratories is resulting in near-future collaborative research including the materials exchange, invited lecture, co-institution project, an international collaboration journal article, and more. I gained a lot of experience in presentation skills as well as negotiation and collaboration skills.



Poster overview



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## Ce concentration dependence on scintillation properties of Ce-doped yttrium pyrosilicate single crystal

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My article on Radiation Physics and Chemistry Journal from ICAPMA-JMAG 2021 special issue