

## Development of Compton-PET hybrid camera for multi-tracer imaging in nuclear medicine

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Simultaneous imaging of PET (positron emission tomography) and SPECT (single photon emission computed tomography) nuclides is difficult in commercial nuclear medicine imaging systems due to their different principles, such as the presence or absence of mechanical collimators. We have proposed Compton-PET hybrid imaging system, which can perform simultaneous PET and SPECT nuclides imaging by the conventional PET and Compton imaging, without any mechanical collimators. We have developed some prototype cameras using different detectors, such as GAGG-SiPM (silicon photomultiplier) detectors, CeBr3-SiPM detectors and silicon detectors. In the presentation, we will introduce the detail of our imaging system and demonstration results.

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