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Chromium Compensated Gallium Arsenide Sensor Evaluation Using Photon Counting Readout Electronics

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Gallium arsenide is extensively studied for about seven decades as an excellent material for semiconductor lasers, LEDs, and microwave electronics. GaAs has noticeable advantages over silicon and Cd(Zn)Te for radiation detectors. Particularly GaAs has higher electron mobility compared to Si and Cd(Zn)Te; higher average atomic number compared to Si; and lower probability and energy of the fluorescence photons compared to the Cd(Zn)Te [1]. These advantages result in a fast charge collection, good absorption efficiency up to 50 keV and a better uniformity compared to Cd(Zn)Te. Applications for the GaAs are foreseen in medical, mammography, small animal imaging, electron microscopy, synchrotrons, XFELs and non-destructive testing of composite materials. (see PDF for complete abstract please)

I plan to submit also conference proceedings

Primary authors: NALYVAIKO, D. (Advafab Oy); HOGENBIRK, E. (Amsterdam Scientific Instruments B.V); MAD-DOX, E. (Amsterdam Scientific Instruments B.V); JAKUBEK, J. (ADVACAM s.r.o, Cameras); LANGE, J. (X-Spec-trum GmbH); KALLIOPUSKA, Juha (Advafab Oy); MATSUSHITA, K. (Rigaku Corporation); KURIBAYASHI, M. (Rigaku Corporation); BAUSSENS, O. (ESRF - The European Synchrotron Radiation Facility); SMOLYANSKIY, P. (Institute of Experimental and Applied Physics, IEAP CTU); MIKUSU, S. (Rigaku Corporation); POLANSKY, S. (ADVACAM s.r.o, Cameras); VÄHÄNEN, S. (Advafab Oy); GNATYUK, V.A. (Advafab Oy); TSUJITA, Y. (Rigaku Corporation)

Presenter: KALLIOPUSKA, Juha (Advafab Oy)

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