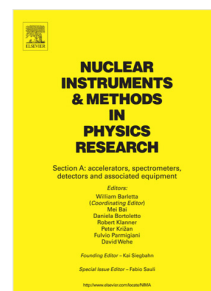


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Gaseous flat-panel detector with glass gas electron multiplier coupled with micro-photodiode array

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20
21 *Abstract*

22 *In this study, we propose and demonstrate a novel imaging system, a gaseous flat-panel detector*
23 *(FPD). The gaseous FPD consists of a glass gas electron multiplier (G-GEM) with a*
24 *scintillation gas, which is optically coupled with photodiode panel fabricated with liquid crystal*
25 *display technology. The G-GEM is ideal as a low energy deposition radiation detector because*
26 *of its single stage high gas-gain and hence, its high photon yield. We obtained a preliminary*
27 *X-ray image with the system by using a Ne/CF₄ 90/10 gas mixture. The typical position*
28 *resolution was 0.93 mm in FWHM, which was obtained from the fitting of edge profiles.*

29
30 **Keywords:** Micro-pattern gaseous detector (MPGD), Glass gas electron multiplier (G-GEM),
31 Gaseous flat-panel detector, Gas scintillation, X-ray imaging

32
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