

Performance Test of New-type MPPC

Tuesday, 27 November 2018 18:32 (2 minutes)

MPPC (Multi-Pixel Photon Counter) is a SiPM device made by Hamamatsu Photonics. In high energy physics experiments, MPPC with lower crosstalk has been desired to get a good photon counting resolution. Thus, suppression of the crosstalk had been a long-term challenge.

Recently, Hamamatsu has developed a new type of MPPC which has lower crosstalk probability and therefore better photon counting resolution than the present one. This characteristic was achieved by Hamamatsu's new trench isolation technology. So far, the trench isolation with small pixel pitch less than 15 μm had never been achieved. However, the new technology enables the trench isolation even with 10 μm pitch and this leads to the low crosstalk probability. It is expected that the MPPC shows considerably low crosstalk probability less than one percent. In this presentation, we will show a result of the measurement of this new MPPC's performance including the voltage or temperature dependences of dark noise rate, crosstalk probability, gain, and so on.

Primary author: Mr ODAGAWA, Takahiro (Kyoto University)

Presenter: Mr ODAGAWA, Takahiro (Kyoto University)

Session Classification: Poster session