Contribution ID: **152** Type: **Poster (Session A)**

Results of a prototype imaging system using the FGLD technology and self-triggering discharge-protected readout electronics

Previous work on the FGLD (Field Gradient Lattice Detector) involved reading out 50 strips from the detector using the GP5 chip: a 128-channel charge sensitive preamplifier with integrated individually programmable trigger. The work showed that the GP5 was suitable as a front-end electronics, but demostrated the need to protect the inputs from discharges inherent in the detector. To that end, the 128-channel diode protection chip developed for the GEM TOTEM experiment has been successfully adapted to the GP5 and shown to make the GP5 resilient to destruction under harsh discharging. Armed with this robust front-end electronics and the FGLD technology, the group has developed a prototype imaging system capable of producing images relevant for medical and industrial applications. A discussion of the system's parameters and performance will be presented, along with some high-resolution images made with a dental X-ray machine.

Primary author: WATTS, David (Universitat Barcelona)

Presenter: WATTS, David (Universitat Barcelona)