The sensor bases its operation on the integration of the charge generated by the radiation. When the charge surpasses a threshold, a known amount of charge is pumped out from the amplifier. By counting (8-bit counter) how many pumps were generated and the time difference between the first and last pump (also an 8-bit counter), it is possible to calculate the charge generated by the particle, and thus the energy of it.

The chip consists of a matrix of 24 x 24 pixels, with a pixel size of 200x200 μm, with a fill factor of 80%. It is bonded to a PCB, which is connected via a GECCO board to an FPGA. Using a Qt software developed for the GECCO board, it is possible to configure, control, and read the sensor.

Conclusions:
- The sensor presents a linear response along the whole dynamic range.
- It shows a noise floor of 0.8 fC, equivalent to 5000ke-, which decreases to 0.1 fC or 620ke- at higher intensities.
- Because the system is based on a discharge pump counter, the integrator will not be saturated, which makes possible to measure particles of high energy.

Future improvements plans:
- Different discharge capacitance.
- Different capacitor voltage.
- Bigger counters.
- Bigger matrix size.
- Read while measuring.
- Using other technology to achieve higher fill factor.