

# Prototype Readout Electronics System for a LET Spectrometer in Space Radiation



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## ➤ Space radiation

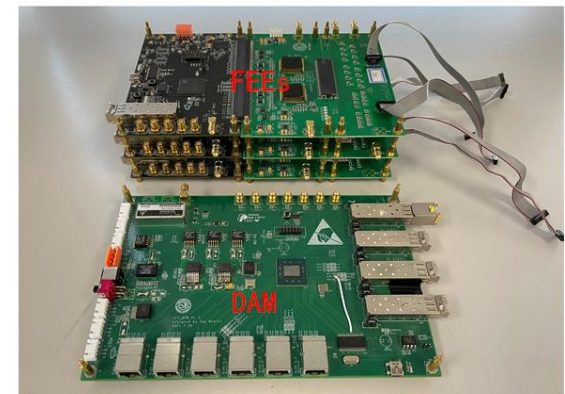
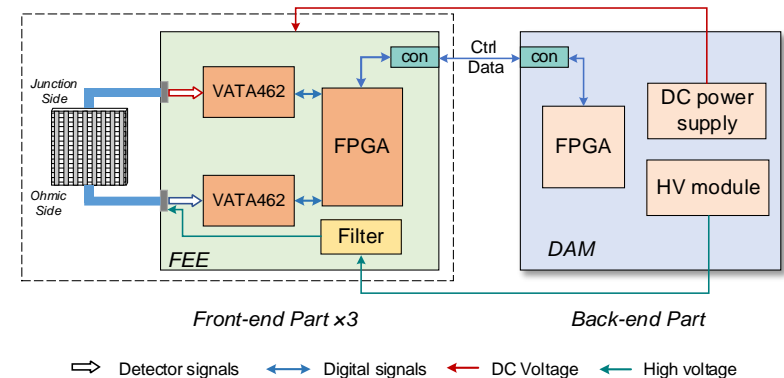
- Heterogeneous composition of particle types.
- Broad energy spectrum.
- Temporal variability.

## ➤ Double-sided silicon strip detectors

- High position resolution
- Low noise
- Large energy dynamic range

## ➤ Prototype design

- Each layer of front-end electronics reads out both sides of DSSDs by different gains
- A data acquisition module carries out calculation and trigger matching



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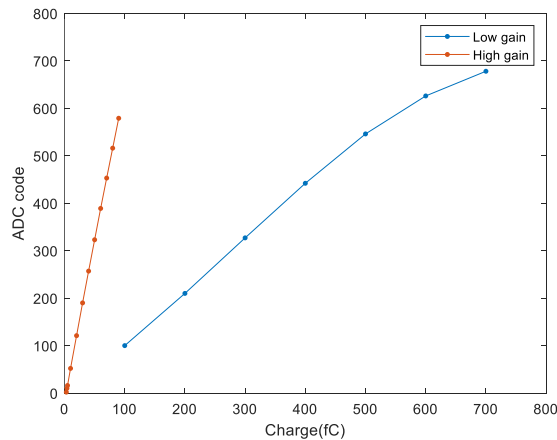
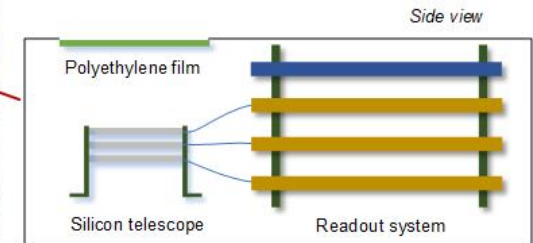
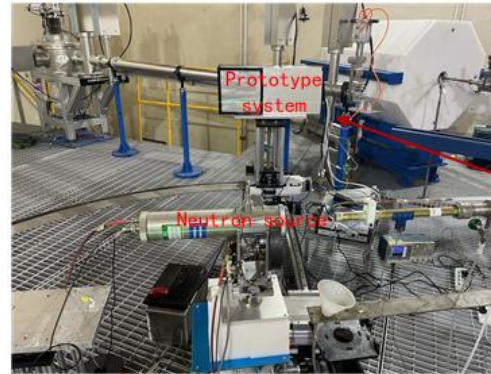
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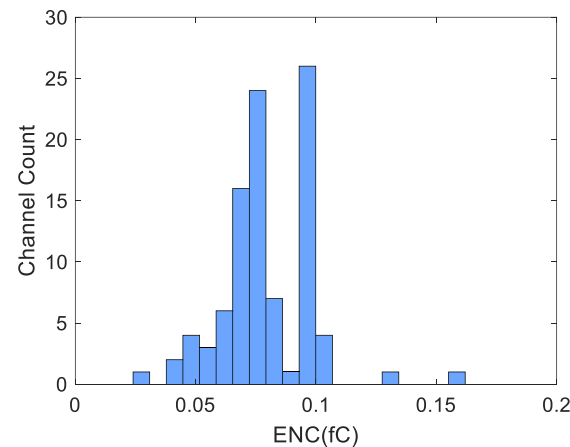
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## ➤ Test results

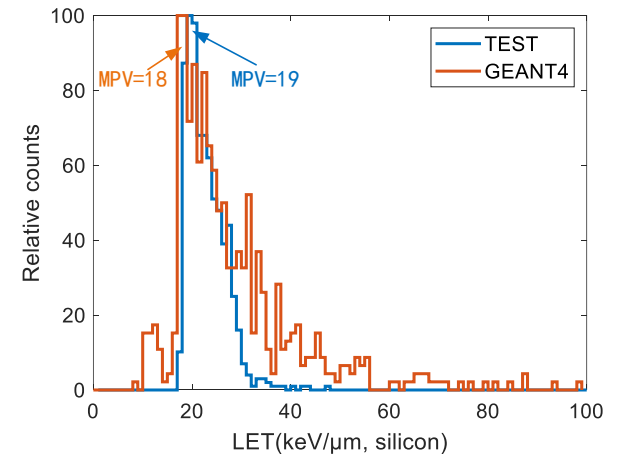
- Large energy dynamic range
- Low noise
- Neutron field radiation test results match with simulation results



Dynamic range



Noise



LET spectrum