

Medipix3

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What does it do?

It detects photons and their energy levels.

How does it work?

When the shutter is open, photons can hit the detector, which consists of a CMOS array. Based on the amount and energy level of the detected photons, an image can be generated. This image has a high resolution, high contrast and is noise hit free.

Is there an analogy or metaphor you can use to help describe this simply?

It works like a very precise camera.

Unique characteristics

Can detect energy levels of each photon

Color Imaging

High resolution, high contrast, noise hit free

Region of Interest readout

Limitations or constraints

Pixel Matrix 256*256

Pixel Size 55 μm *55 μm

Readout time 491 μs

Originally designed to be used for:

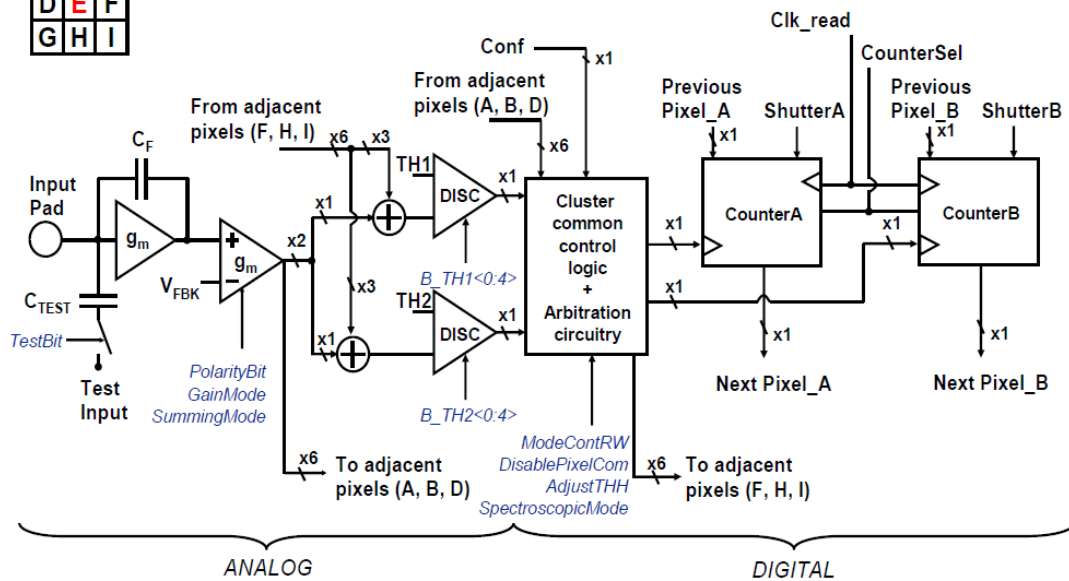
Large Hadron Collider Readouts.

Questions related to this technology

Where else could a precise readout be necessary?

A	B	C
D	E	F
G	H	I

BLOCK DIAGRAM OF PIXEL E



References

- <https://kt.cern/success-stories/medipix-chips-and-collaborations-medical-imaging-space-dosimetry>
- <https://kt.cern/technologies/medipix3>
- <https://medipix.web.cern.ch/sites/medipix.web.cern.ch/files/documents/collaboration/tech-brief-medipix3.pdf>
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