Skipper CCDs for Quantum Science

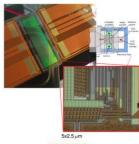
- Publication: Infrared photon-number-resolving imager using a Skipper-CCD
 - Accepted at PRApIlied. <u>https://arxiv.org/abs/2301.10891</u>



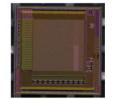
🗲 Fermilab

- Upcoming result: qudit tomography using a Skipper-CCD
 - Two orders of improvement (less photons needed)
- Collaboration with Kwiat Lab at UCIC
 - Effort to build a Quantum IR Spectrograph
 - Installation of a Skipper-CCD pathfinding system at Kwiat Lab upcoming
- Fermilab is leading the effort to make these detector faster









SISERO



- Very successful HEP-QIS QuantISED
- Early adopters are using the Skipper-CCD to produce world leading results
- Collaboration with Kwiat Lab at UCIC is growing and accelerating
 - Killer app: Quantum IR Spectrograph (similar to quantum radar but with IR photons)
- Effort towards building fast and easy to use compact systems
 - technology transfer opportunity

By joining forces with established Quantum Science groups, we are leveraging on the Skipper-CCD technology to drive scientific advancements