

Monolithic integrated silicon detectors, CMOS (MAPs)

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- J. Brau, M. Breidenbach, L. Rota, C. Vernieri
Large area CMOS monolithic active pixel sensors for future colliders
https://www.snowmass21.org/docs/files/summaries/IF/SNOWMASS21-IF3_IF7_Martin_Breidenbach-113.pdf
- J. Metcalfe
Silicon Pixel Detectors in Space
https://www.snowmass21.org/docs/files/summaries/IF/SNOWMASS21-IF3_IF2_Jessica_Metcalfe-154.pdf
- L. Greiner
Monolithic Active Pixel Sensors for High Performance Tracking
https://www.snowmass21.org/docs/files/summaries/IF/SNOWMASS21-IF7_IF3_Leo_Greiner-160.pdf

- Beam time Structure and constraints on the read-out for collider : TowerJazz CMOS Image Sensor 65 nm processes
 - MAPS developments for ECal
 - MAPS developments for Tracker (also vertex detector)
 - ultra-granular ($\sim 10\mu\text{m}$), ultra-light (wrapped, thinned silicon), and large area (stitched reticles across wafers) detectors for the EIC needs, i.e. for the vertexing and tracking layers, but also potentially elsewhere, eg. 4D tacking
 - Large area MAPS: next R&D steps - Study challenges of wafer-scale ASICs on TowerJazz 180 nm technology
- MAPS developments for Space applications: AstroPix, a monolithic CMOS design with very low power, 750 μm thick sensor, good energy resolution over a broad range.
 - characterization measurements
 - SEU testing
 - test beam measurements
 - irradiation measurements
- Applications to Electron Microscopy