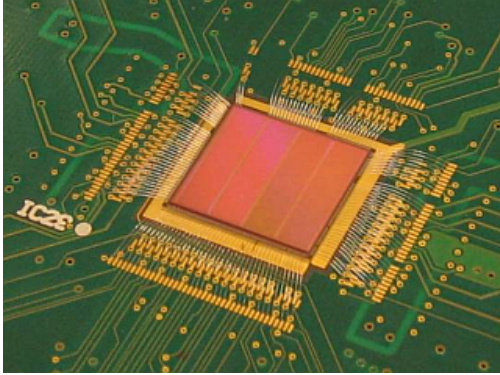


Home

Welcome to the SPiDeR Collaboration

This is the homepage of the SPiDeR (**Silicon Pixel Detector R&D**) Collaboration based mainly in the UK (See [Collaborating Institutes](#)). SPiDeR is a focused R&D program aimed at establishing the viability of monolithic silicon active pixel sensors (MAPS) for future particle physics detectors for vertexing, tracking and calorimetry.



The overall goal is to investigate the key technical issues which would allow the design of application-specific sensors for future experiments. Several devices will be designed, fabricated and their performance will be validated by detailed laboratory measurements and in hadron and electron test beams. This will build on the experience with the TPAC (TeraPixel APS for CALICE) family of chips, which have been developed by the CALICE-UK MAPS program and the pixel expertise developed in the LCFI program. TPAC (and its successors) are made in the 180 nm CMOS INMAPS process using deep p-well implants. We also plan to use integrate advanced low-noise structures into our designs. One of these devices will be used to build prototype calorimeter stack and provide a first demonstration of the potential of digital electromagnetic calorimetry. This will also allow a real system test of a MAPS-based detector with about 80 million pixels. More details can be found [here](#).

Results from SPiDeR are reported at these [conferences](#), for previous results from the CALICE-UK MAPS and LCFI groups, see [here](#) and [here](#).

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