

Joint Instrumentation Seminar  
June 18, 2010

**The Medipix chips: an example of synergy between  
High Energy Physics, Photon Science and other fields of imaging.**

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Hybrid pixel detectors were developed initially to meet the requirements of High Energy Physics (HEP) experiments where there is a need to detect particles with a very high signal to noise ratio at an interaction rate in the MHz region. It was the availability in the late 80's and early 90's of high resistivity silicon sensors, fine pitch bump bonding and especially 'modern' CMOS processes which permitted the developments to begin. During the R and D phase for pixel detectors for HEP it became quickly apparent in that the technology had great potential for other fields, in particular medical imaging. That led to the development of the first Medipix chip in the mid 90's. Today the Medipix2 and Medipix3 Collaborations each consist of 15-20 institutes. Both Collaborations include a number of groups who are active in HEP, a significant fraction of groups from synchrotron light sources and other groups whose primary interest lie in imaging applications such as electron microscopy or astronomy. Following a very brief history of the developments the talk will focus on present day applications of the various chips and how the pooling of resources has benefitted the various participating groups. It will also try to give some indicators of where developments may go in future based always on the context of the underlying technologies.