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New semiconductor 2D position-sensitive detector

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We present a novel semiconductor 2D position-sensitive detector based on planar technology of single-sided microstrips. The device is a microstrip sensor with implants covered by a resistive material. Position information along the strip direction is obtained by means of the resistive charge division method. A SPICE model of the detectors was developed and prototype sensors were produced. They were tested with laser beam, radioactive source and in the 120 GeV/c pion line at the SPS testbeam area. These detectors work coupled to standard readout electronics. Spatial resolution along the strip length better than 100 μm has been measured for a signal to noise ratio of 15/1. Further tests with very recent second prototypes will also be presented.

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