

Development of a new beam position detectors for NA61/SHINE experiment.

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New beam position monitors were developed for NA61/SHINE experiment. Detectors are based on the single-sided silicon strip detector (SSD). Si strips produced by Hamamatsu (S13804) were used, where the pitch has a width equal to 190 μm . The detector's readout allows for saving waveform for each strip, and it is based on DRS4 chips. The main goals required from the designed detectors are: they should work efficiently with proton and lead beams with beam intensity on the level of 100 kHz, the detectors' material on the beamline should be minimized, the detectors should be able to determine the position of X and Y hit of each beam particle with maximum possible accuracy. In this contribution, detector design and construction will be presented. The developed procedure of the signal and position reconstruction will also be shown. Finally, detector performance during measurement will be discussed.