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Resistive Silicon Detector: 4D tracking with low electrode density

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Resistive Silicon Detectors (AC-LGAD - RSD, DC-RSD) offer very good spatial (10-20 microns) and temporal resolution (30 - 40 ps) using large pixels (300 - 500 microns). RSDs are very thin, have 100% fill factor, and are radiation tolerant up to 1E15 n/cm2.
Given their low electrode density (for equal spatial resolution about a factor of 100 less than standard design), RSDs are ideal for low material budget/low power consumption applications.
RSDs have been proposed and developed by INFN at FBK, and now interesting developments are carried out in China (IME) and Japan (HKP, for EIC).
It is essential to maintain and foster the INFN's leading position in this technology and continue investing in experiments using it.

Primary authors: SIVIERO, Federico (Istituto Nazionale di Fisica Nucleare); MENZIO, Luca (Istituto Nazionale di Fisica Nucleare); FERRERO, Marco (Istituto Nazionale di Fisica Nucleare); CARTIGLIA, Nicolo' (Istituto Nazionale di Fisica Nucleare); ARCIDIACONO, Roberta (Istituto Nazionale di Fisica Nucleare); SOLA, Valentina (Istituto Nazionale di Fisica Nucleare)

Presenters: FERRERO, Marco (Istituto Nazionale di Fisica Nucleare); CARTIGLIA, Nicolo' (Istituto Nazionale di Fisica Nucleare); ARCIDIACONO, Roberta (Istituto Nazionale di Fisica Nucleare)

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