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## [F06] The power of resistive read-out in thin silicon sensors with internal gain

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In this contribution, I will review the performance improvements that two design innovations, low-gain (LGAD) and resistive read-out (RSD), have brought to silicon sensors. Large signals lead to improved temporal precision ( $\sim 30$  ps), while charge sharing allows for achieving excellent spatial resolution (20 microns) with large pixels ( $\sim 1 \times 1$  mm<sup>2</sup>). LGAD- and RSD- based silicon sensors are now adopted, or considered, in several future experiments and are the basis for almost every next 4D-trackers.

I will present new results, obtained with sensors belonging to the second FBK production of RSD, that demonstrate how a combined resolution of 30 ps and 30 microns can be obtained with pixels as large as  $1 \times 1$  mm<sup>2</sup>.

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