

Alternative technologies for Low Resistance Strip Sensors at CNM

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Results from the newly fabricated Low Resistance (LowR) Strip Sensors will be presented. In this third batch fabricated at CNM-Barcelona, new technological solutions have been implemented to obtain the needed low resistivity in the strips in order to obtain a full protection versus beam losses. As a first technological alternative, a Titanium Silicide (TiSi₂) layer has been created on top of the silicon implant to create a low resistance path along the strip. In the second alternative, a highly doped polysilicon layer has been deposited on the strip, also to obtain a low resistance path. The tests show that the sensors are working satisfactorily, and that the low resistance along the strip has been achieved with strip resistances around 1.5 kOhms for the TiSi₂ sensors, and 1.8 kOhms for the poly sensors. This suppose more than one order of magnitude reduction in the strip resistivity, which indicates that the additional protection from beam losses will be also achieved with these solutions. This will have to be confirmed with laser tests.

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