

INFN-Torino

INFN-Torino has a strong tradition of silicon detector development and VLSI chip design: ZEUS, CMS, ALICE...

INFN-Torino is currently working on the upgrade of silicon systems of several experiments (ALICE, PANDA, CMS) and has also R&D projects funded by INFN- Gruppo V.

I'm the P.I. of a 3-year grant from Gruppo-V for the development of Ultra-Fast Silicon Detector.

→ This grant has the active participation of FBK and their interest in developing such devices

I'm the Italian coordinator of the installation of the 3D-silicon detector for the CMS-forward silicon tracker (PPS in CMS, AFP in ATLAS).

→ The project has been funded by INFN, for the realization of FBK-3D detectors.

INFN-Torino in RD50

We would like to join RD50 to work on the development of UFSD

The group is currently made of 5-6 persons, plus a PhD student and an undergraduate.

Given our strong VLSI group, we are interested in working on the concurrent development of the sensor and the electronics.

→ We want to concentrate on the study of the optimization of the sensor's parameters to match a possible read-out chip.

We want to pursue this project by leveraging on our expertise in several aspects:

1. Fully equipped silicon lab (CV, IV, laser, thermal boxes...)
2. Use the VLSI chip developed for NA62: these chips are ready to be used, need to develop the appropriate USFD sensors
3. Start the development of dedicated VLSI chips
4. Collaboration with the FBK team that has worked on SiPM (Boscardin, Piemonte, Dalla betta)
5. Advanced mechanical and electronic shops
6. Use our connection with SELEX for bump-bonding