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Future trackers: tracking particles in space and time with excellent time and position resolution

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- 場所** : 本館1階 156 物理学系輪講室

概要

The possibility of tracking particles in space and time has attracted a lot of attention in the last few years. It is now part of the CMS and ATLAS upgrades for High Luminosity Large Hadron Collider (HL-LHC) and it is considered to be the baseline tracking system at Future Circular Collider (FCC) and at the next muon collider.

In this talk, I will review the progress towards the development of Silicon sensors which can track particles in 4D with a precision of ~ 10 micro meters and ~ 10 picoseconds. I will show why thin Silicon sensors with moderate internal gain are a very promising technology to achieve this goal, and how we can make this technology radiation-tolerant so that sensors can work after being exposed to fluences well above $10^{15} \text{ n}_{\text{eq}}/\text{cm}^2$.

連絡教員 物理学系 陣内 修 (内線 2081)