TWEPP 2013 - Topical Workshop on Electronics for Particle Physics





Contribution ID: 240 Type: Oral

Technology trends for customized analogue and digital circuit manufacturing including radiation hardness requirements

Monday 23 September 2013 15:45 (45 minutes)

Technology development and applications for integrated circuit manufacturing are focusing on twofold areas, the 1st one going the aggressive trend of miniaturization, the 2nd going moderate in smaller feature sizes however with wide range of diversification and customization.

In the 2nd area challenges are in fields like integration of different technology platforms such as "CMOS combined with MEMS" or adding to conventional CMOS technologies special features, enabling dedicated applications and designs. This can be special added technology features for use of CMOS for imaging applications or for high voltage applications or for complex system-on-chips like secure IC or special sensor products. Some application need to have the semiconductor technology being capable to sustain in harsh environment, this are for example high temperatures like in automotive or radiation hardness like in medical and aerospace.

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Session Classification: Opening 1