

High performance sensor interfaces: Efficient system architectures and calibration techniques

Thursday 9 June 2011 16:15 (50 minutes)

This lecture presents the different system-level and block-level techniques that allow efficient sensor interfacing with A/D conversion. In particular, open- and closed-loop topologies are presented, as well as voltage- and charge-mode readout interfaces. Several examples demonstrate the application of the techniques proposed. Finally, a very efficient technique for self-calibration is presented: Sub-binary radix DACs.

Marc Pastre is research and teaching associate at EPFL. He received his MSc degree in computer science and PhD degree in microelectronics from EPFL in 2000 and 2005 respectively. Besides his teaching activities in electronics and microelectronics, he is conducting research projects in the areas of high-performance sensor interfaces, low-power analog and mixed-signal circuits, digital enhancement of analog circuits, and CAD tools.

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