

Seminar

Titel: "Digital correction technique for Analog-to-Digital Converters"

Date: January 27th

Time: 15:30

Location: University of Gävle, House 11 "Munin", floor 3, room 11:320

Speaker: Vincent Kerzerho, University of Twente

Abstract

Semiconductor industry tends to increase more and more the performances of the developed systems with always shorter time-to-market. In this context, conventional strategy for mixed-signal component design, which is only based on analog design effort, will be no more suitable. A digital correction technique will be presented for Analog-to-Digital Converter (ADC). The idea is to use Look-Up-Table for online correction of the Integral Non-Linearity (INL). A challenge for this kind of technique is the cost in time and resources to estimate actual INL of the ADC needed to load the LUT. I propose to extract INL a very fast procedure based on spectral analysis. The validation results of the technique on a 12bit Folding-and-Interpolating ADC will be presented and it will be demonstrated that the correction is efficient for the large range of application fields. The technique will be also discussed according to the design of the ADC. Further developments according to the ADC architecture will be also presented.