



THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

Seminar

**Efficient Balancing of q-ary Sequences
with Parallel Decoding**

by

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Date : 31 July, 2009 (Fri.)
Time : 2:30-3:30pm
Venue : Room 833, Ho Sin Hang Engineering Building
The Chinese University of Hong Kong

Abstract

Balancing of q-ary sequences is considered, where we look at efficient schemes that encode any sequence into a balanced sequence. Knuth's original binary scheme is presented as an introduction, followed by previous schemes used to balance q-ary sequences. We then present a new scheme using a generalization of Knuth's efficient parallel balancing scheme. It is shown that the new general scheme is as simple as the original binary scheme, which lends itself to parallel decoding of the balanced sequences.

Biography

Theo G. Swart received the B.Eng. and M.Eng. degrees in electric and electronic engineering from the Rand Afrikaans University, South Africa, in 1999 and 2001, respectively, and the D.Eng. degree from the University of Johannesburg, South Africa in 2006. He is currently employed as a Senior Researcher in the Telecommunications Research Group, University of Johannesburg. His research interests include digital communications, power-line communications and error correction coding.

**** ALL ARE WELCOME ****

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