MSc Thesis Project
Forward Error-Correction for Optical Communication

Introduction:
The goal of the project is to identify whether the new frame format used for >100G OTN interfaces can be used to implement a hard decision FEC with better performance than the existing enhanced FECs.

The standard FEC used for existing OTN interfaces is not expected to have a high enough gain for >100G OTN interfaces, and while the enhanced FECs used for 100G and below provided higher gains they do not take advantage of the new frame format. The project will involve both designing a new FEC for >100G, and a test implementation that allows verification of the performance for the design.

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Prerequisites:
• 01405 Error-Correcting codes (or 01259/01400)
• Knowledge of VHDL coding techniques, e.g. from 34349 FPGA design for Communication systems

Additional information:
• J. Justesen, K. J. Larsen & L. A. Pedersen, "Error correcting coding for OTN", IEEE Communications Magazine, September 2010.
• Contact supervisors below.

Practical details:
The project is carried out at Altera Denmark Technology Centre A/S, Hørkær 12A, 2730 Herlev, Phone +45 8870 1900

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