ClariPhy Communications, Inc.

Topics

- Comparison of MATLAB code to PIE-D
- MATLAB code filter configurations
  - Signal → BT-4+Butterworth;
    - Noise →Butterworth
  - Signal → BT-4;
    - noise → BT-4
- Reference data
  - Eyes
  - CDFs

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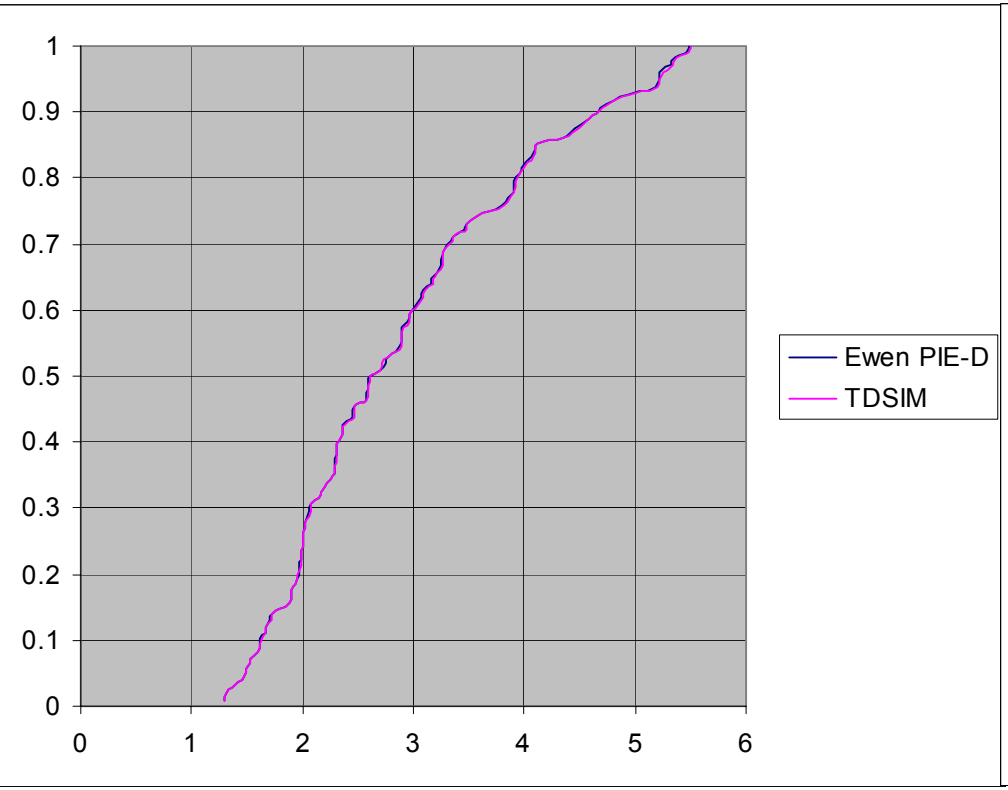
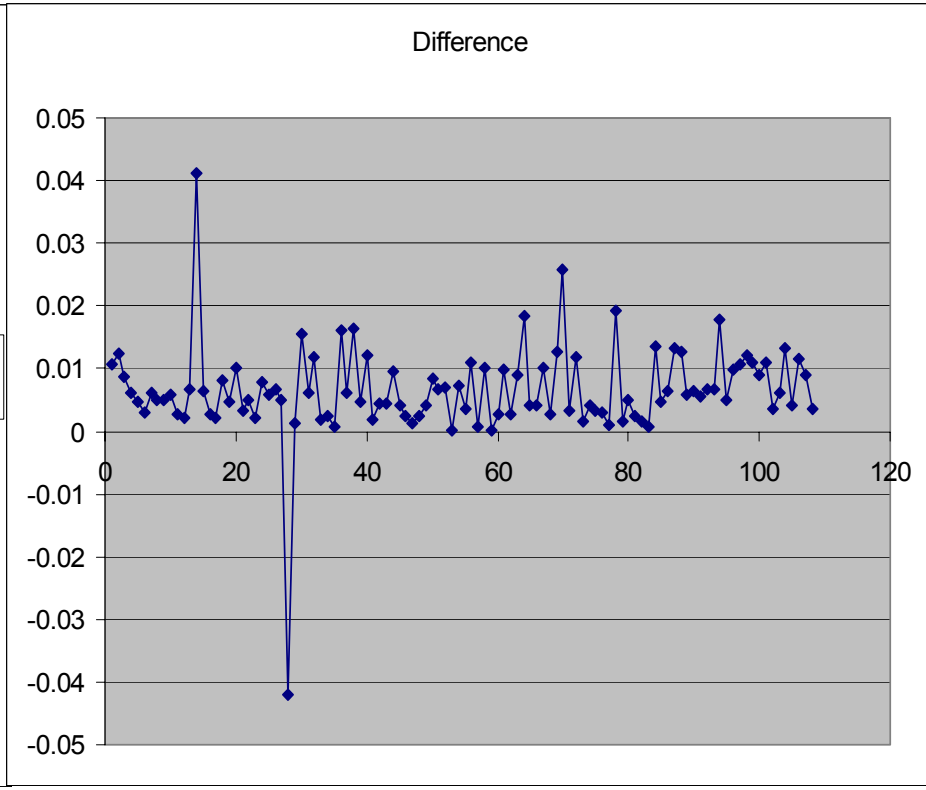
IEEE code vs. PIE-D

- CDF comparison of ClariPhy TDSIM tool to Ewen PIE-D data
  - IEEE tool extracted from TDSIM
- Comparison based on
  - 47.1 psec 20-80% Gaussian prbs9 simulated waveform
  - 7.5 GHz BT4 filter on capture
  - Cambridge r2.1 (108 fibers)
  - 20 micron fixed offset launch
  - No connectors

Results - difference is per Cam fiber#



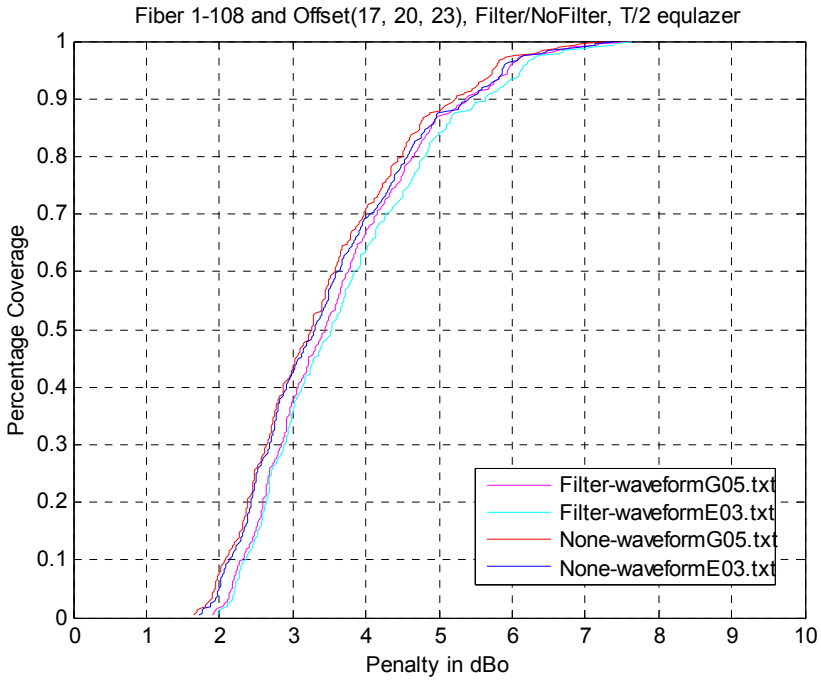


Within ~0.04 dB

Trying to understand discrepancy of the 2 worst cases

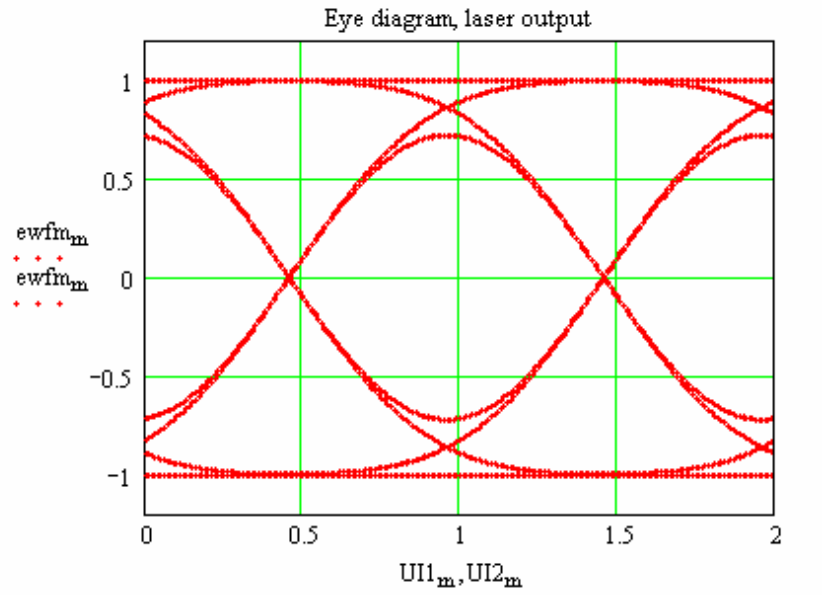
Filter configurations

- Configurations
  - Current code
    - Signal → BT-4 @ capture +Butterworth;
      - Noise →Butterworth
  - "No filter"
    - Signal → BT-4 @ capture;
      - noise → BT-4
- "No filter" improves penalty ~0.15 dB
  - BT-4 filter reduces integrated noise
- "No filter" is better than PIE-D. If so, recommend staying with original option.
  - Needs to be confirmed

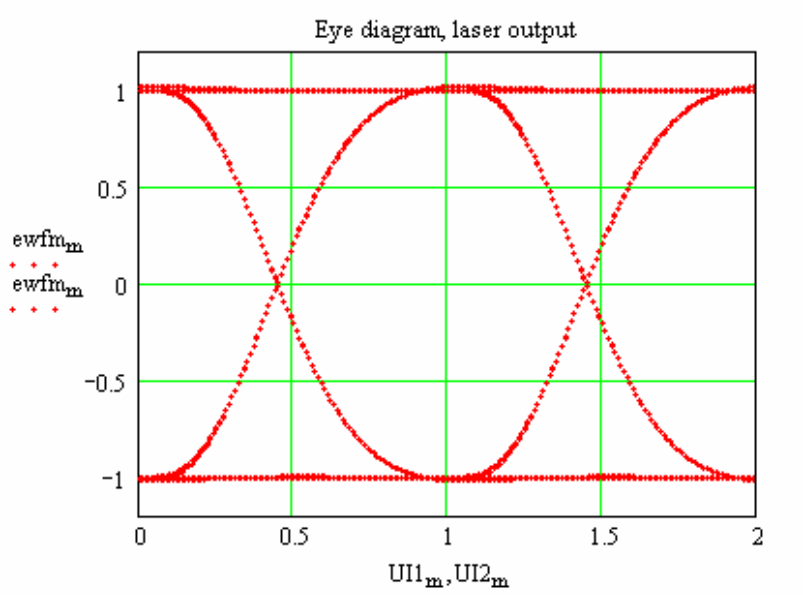


prbs9 eye diagrams

47.1 psec Gaussian



Ideal rectangular

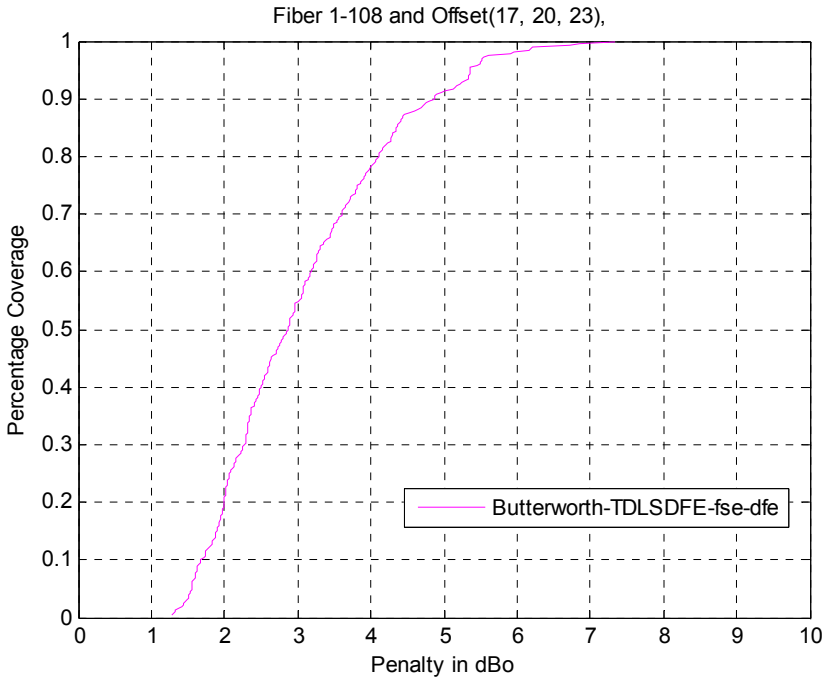


7.5 GHz BT4 filter included

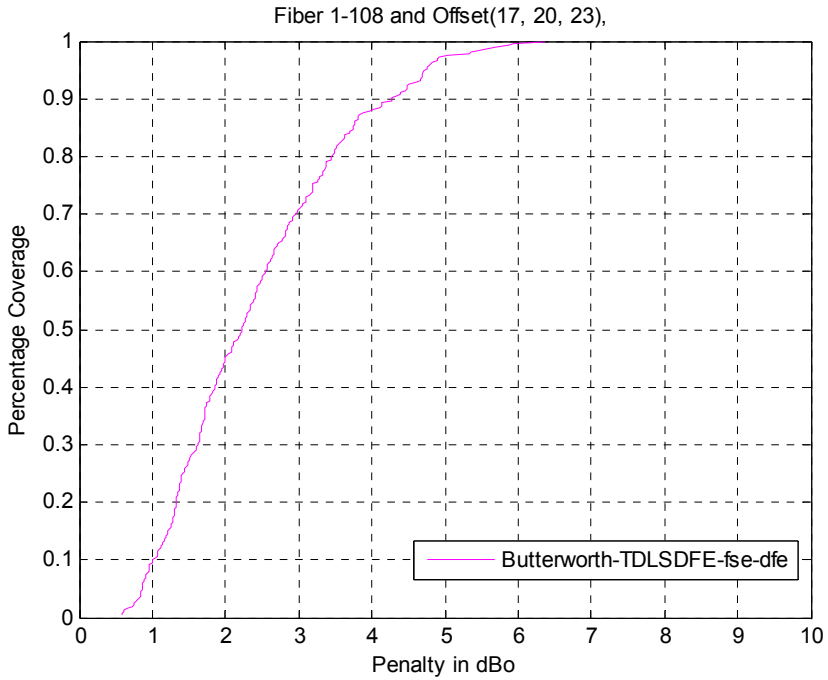
Reference curves for

http://grouper.ieee.org/groups/802/3/aq/public/nov04/lindsay_2_1104.pdf
http://grouper.ieee.org/groups/802/3/aq/public/upload/FinisarwaveformcapturesEDCpenalties.pdf;

47.1 psec Gaussian



Ideal rectangular



Cambridge r2.1, 108 fibers, 17:3:23 offset, no connectors
prbs9; 7.5 GHz BT4 filter included