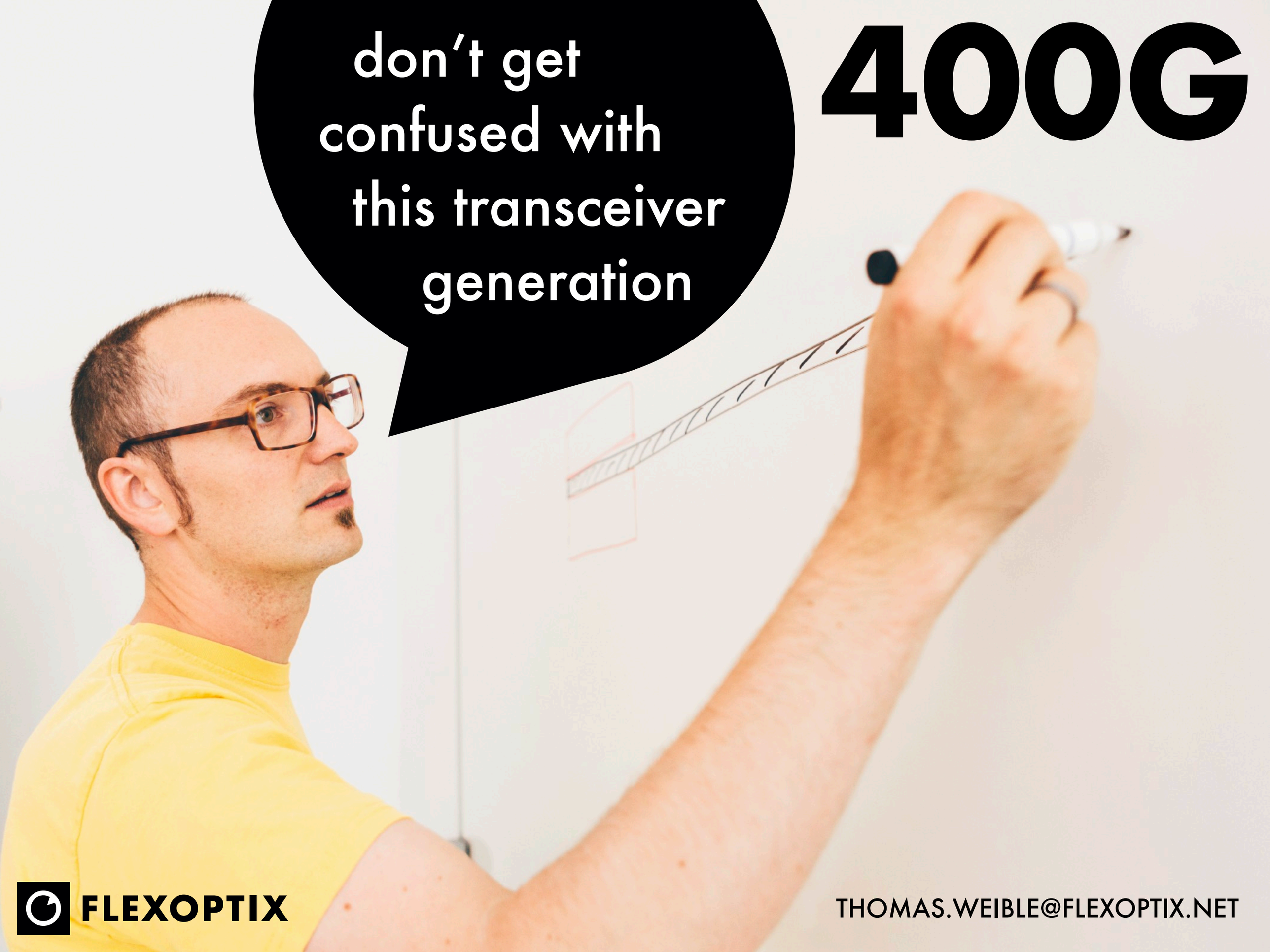
don’t get
confused with
this transceiver
generation

400G

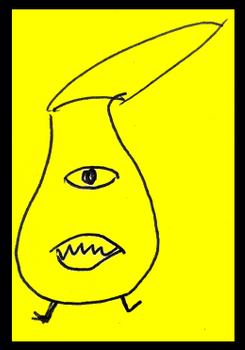


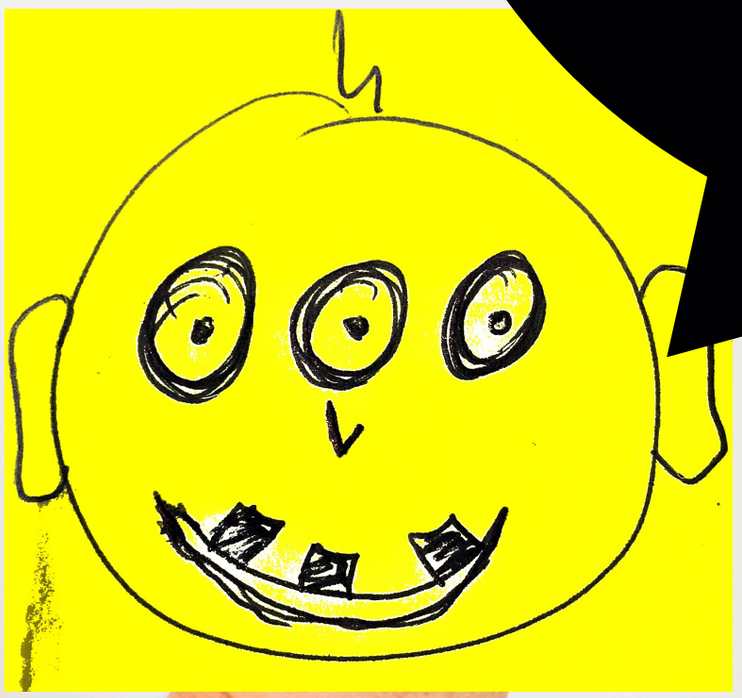
FLEXOPTIX

THOMAS.WEIBLE@FLEXOPTIX.NET

400G

from cyclops
to
treyclops





THOMAS.WEIBLE@FLEXOPTIX.NET

FLEXOPTIX

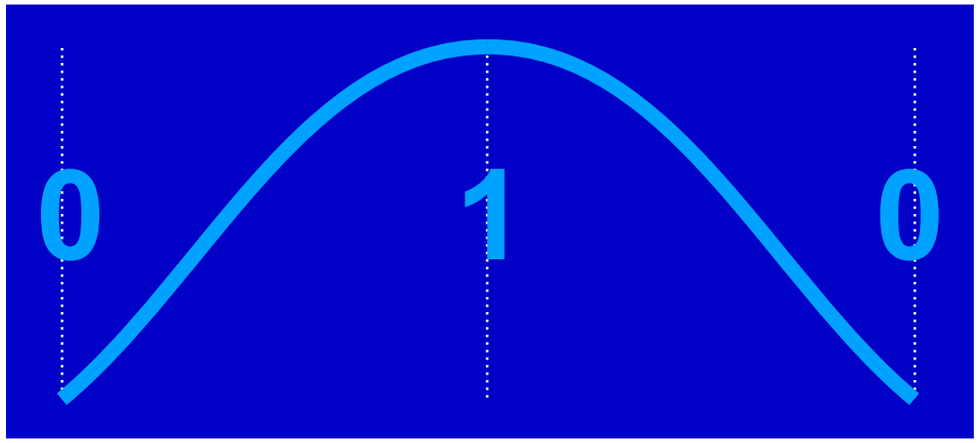
theory

H

L

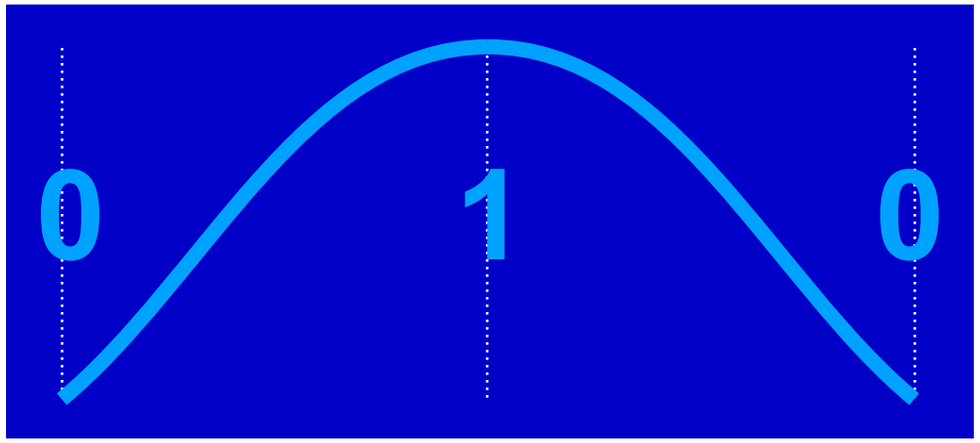
THOMAS.WEIBLE@FLEXOPTIX.NET

mein schönes aUGe:D - source: http://www.fotocommunity.de/photo/mein-schoenes-auged-nina-goldiger/3232921, Author: Nina Goldiger



H

L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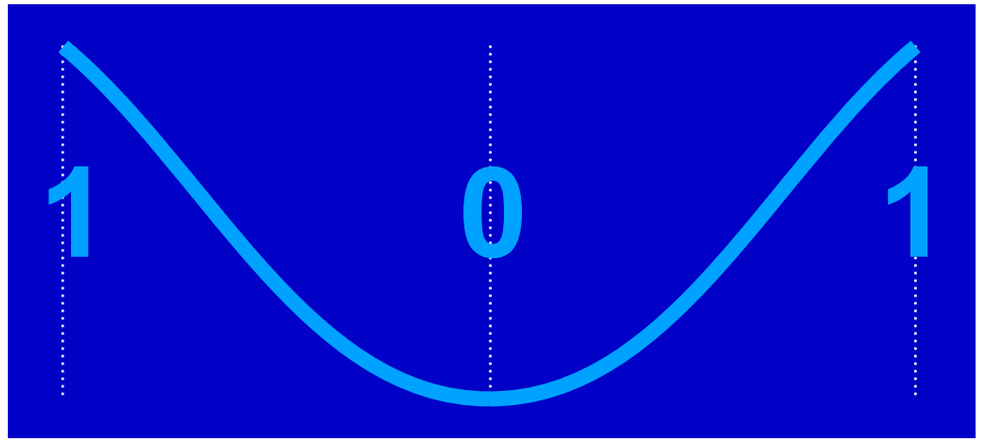
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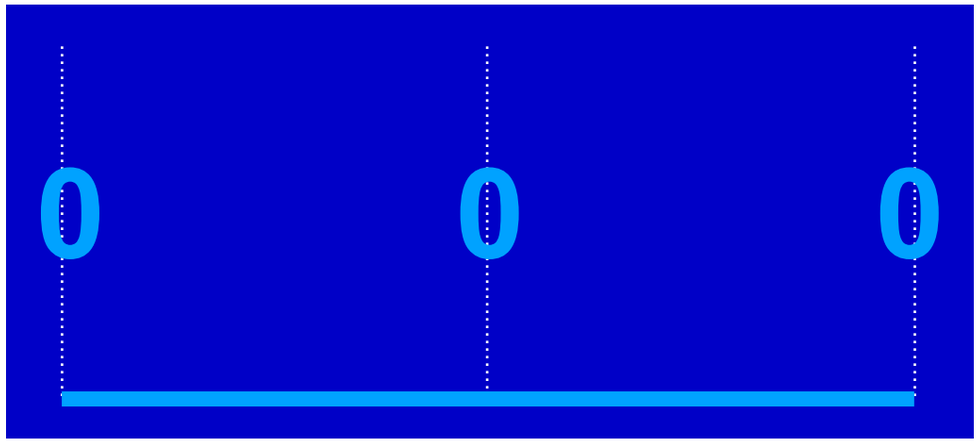
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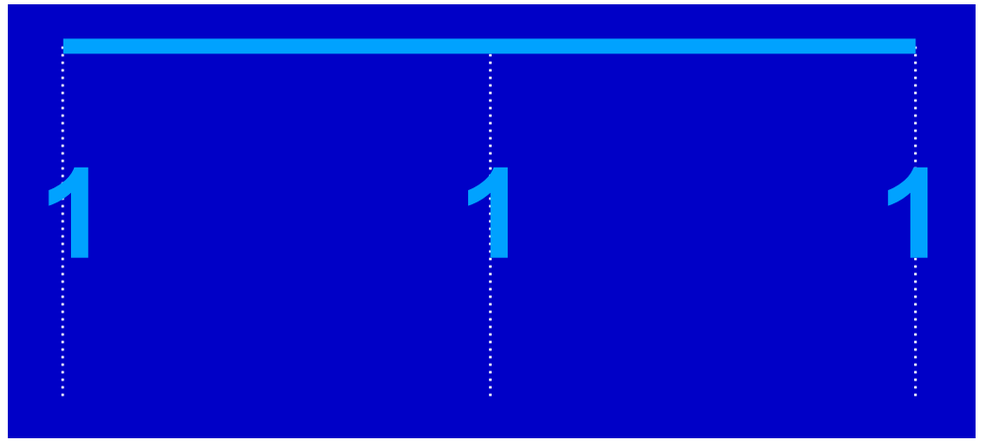
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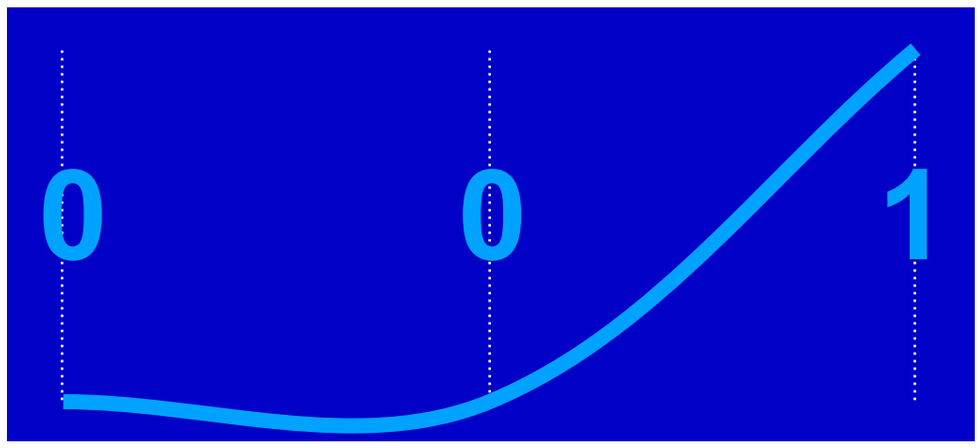
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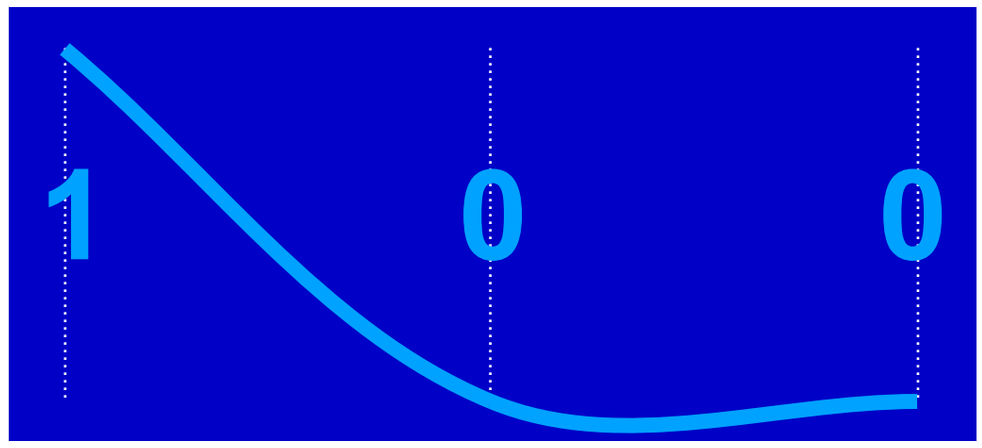
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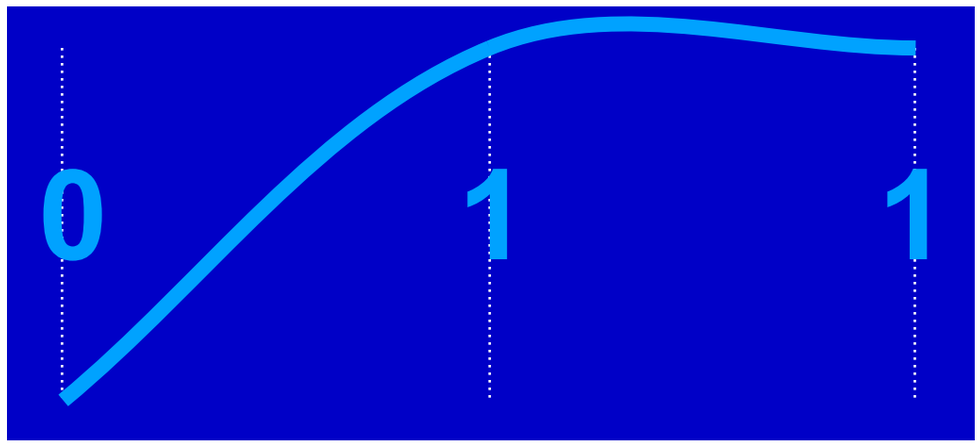
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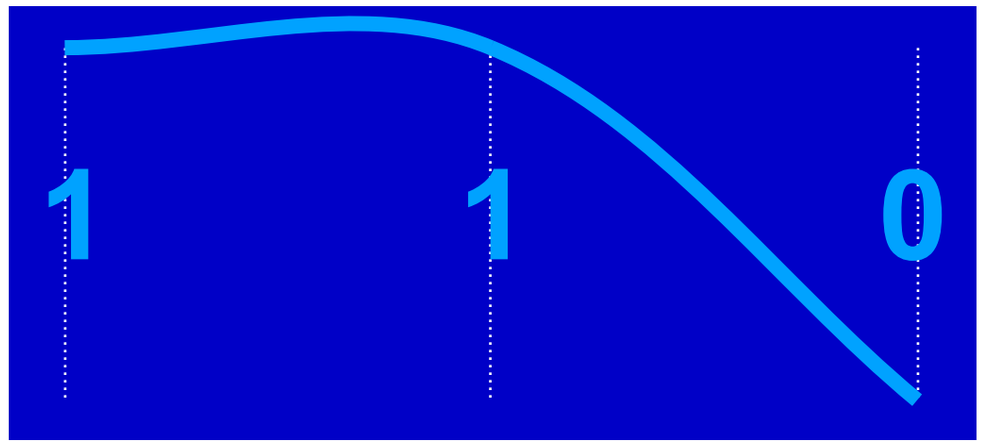
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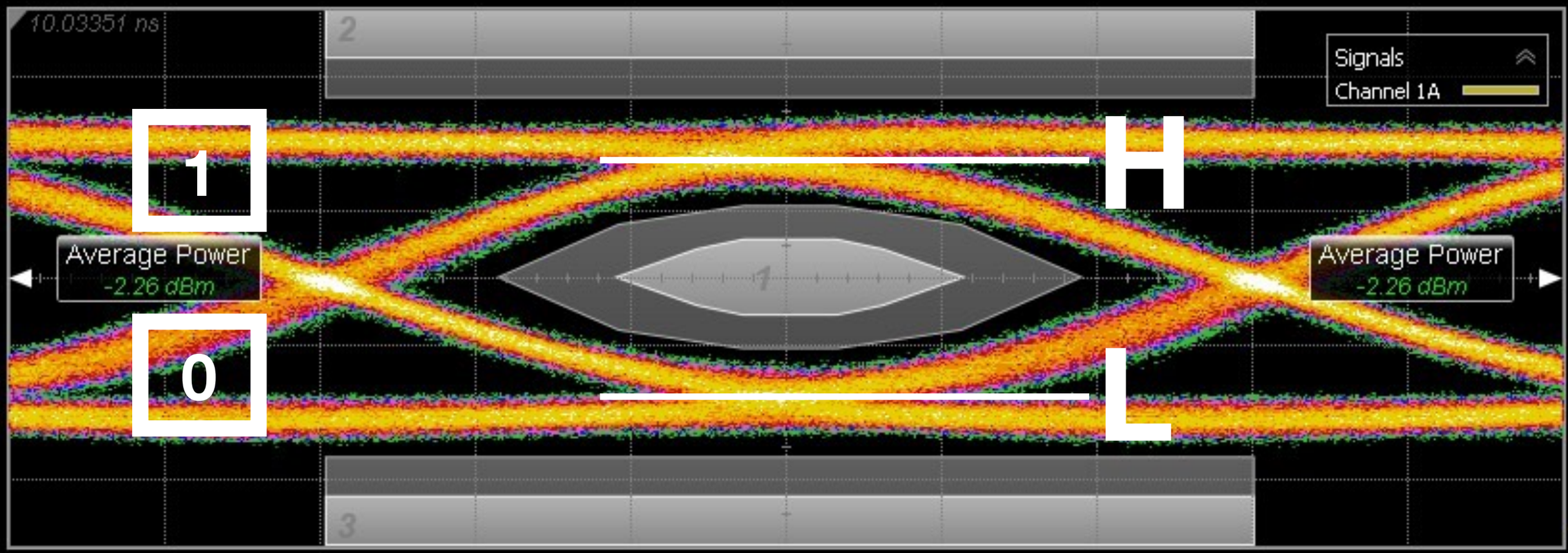
Waveform

0000010100111001010111 0111 ...



Mask Test

Results

Mask 1

Mask: 100G-CWDM4 Change...

Symbol Rate: 25.781 GBd

Source: 1A

Align Method: Eye Cross Mean

Waveforms: 614 wfm

Samples/UI: 754.48 ksa

Margin: 40.6 %

Standard Mask Violations

Region 1: 0 hits

Region 2: 0 hits

Region 3: 0 hits

Total: 0 hits

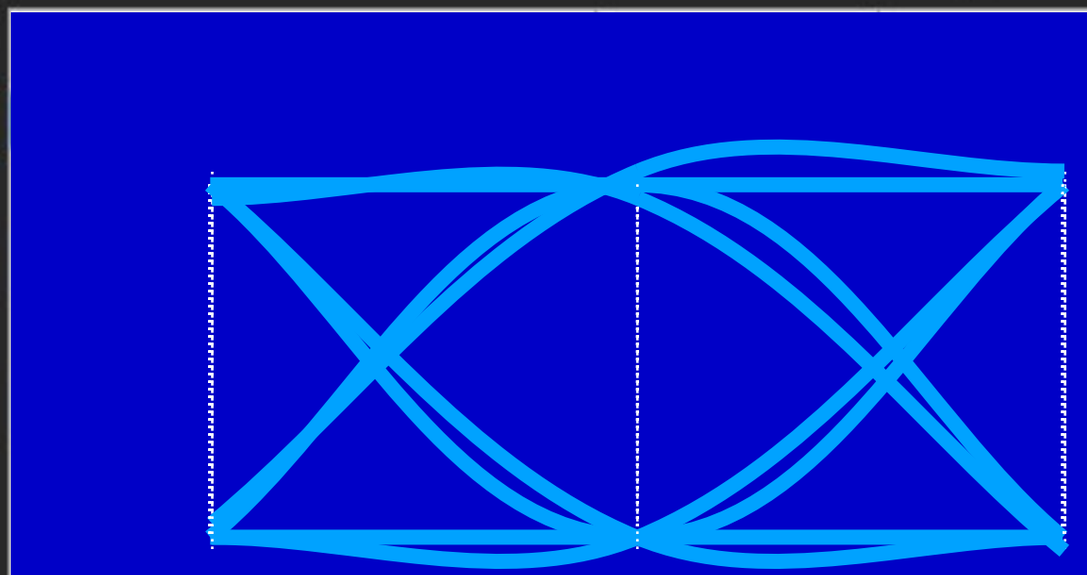
Margin Mask Violations

Region 1: 0 hits

Region 2: 0 hits

Region 3: 0 hits

Total: 0 hits

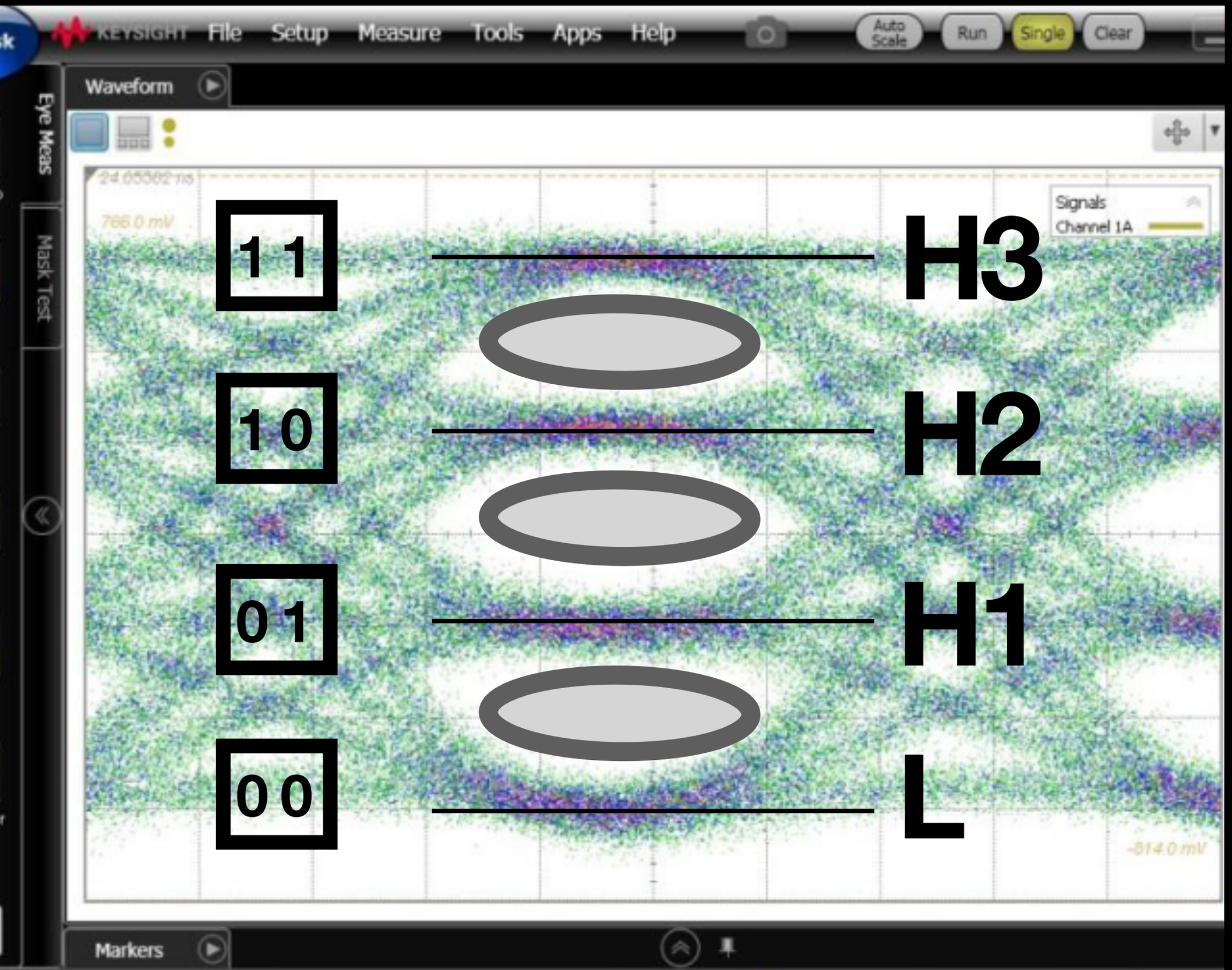


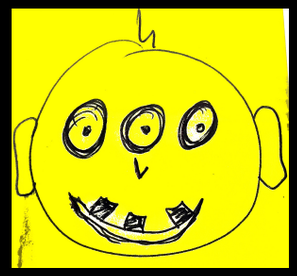
title Ice Station; author: Thomas Weible

NO

H3
H2
H1
L

0000010100111001011101 11...
1110111010011100101000 00...





PAM4

hands on

recap 100G

electrical

4 x 25G

optical

4 x 25G

source: https://upload.wikimedia.org/wikipedia/commons/f/f4/VysokePece1.jpg, author: Třinecké železárny

H3
H2
H1
L

makes 400G

electrical

8 x 50G

optical

8 x 50G

source: https://upload.wikimedia.org/wikipedia/commons/f/f4/VysokePece1.jpg, author: Třinecké železárny

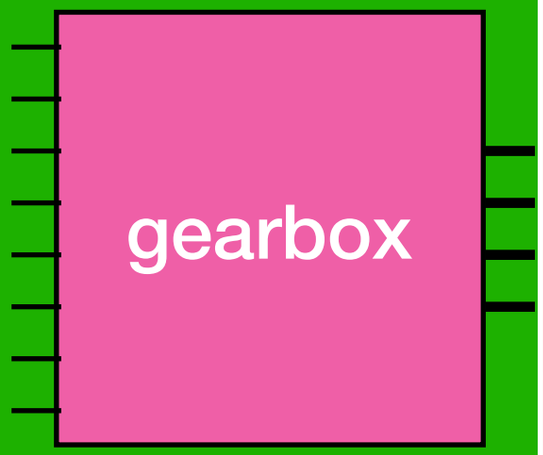
H3
H2
H1
L

makes 400G

electrical

optical

8 x 50G



4 x 100G

source: https://upload.wikimedia.org/wikipedia/commons/f/f4/VysokePece1.jpg, author: Třinecké železárny

a super fast switch

SIZE

35 mm

70 mm

QSFP28

75 mm

QSFP-DD

100 mm

OSFP

integrated heat sink

?

a super fast switch

400G

3
2
1
0
100G

some 100G gear

QSFP28

QSFP-DD

µQSFP

hot 100G gear

OSFP

fancy 100G gear

SFP-DD

your choice

....

PSM

λ

CWDM

20nm

LR4

λ

LAN WDM

5nm

10 km

IEEE 802.3ba

DR4

500 m

PSM

FR8

FR4

λ

CWDM
20nm

2 km

LR8

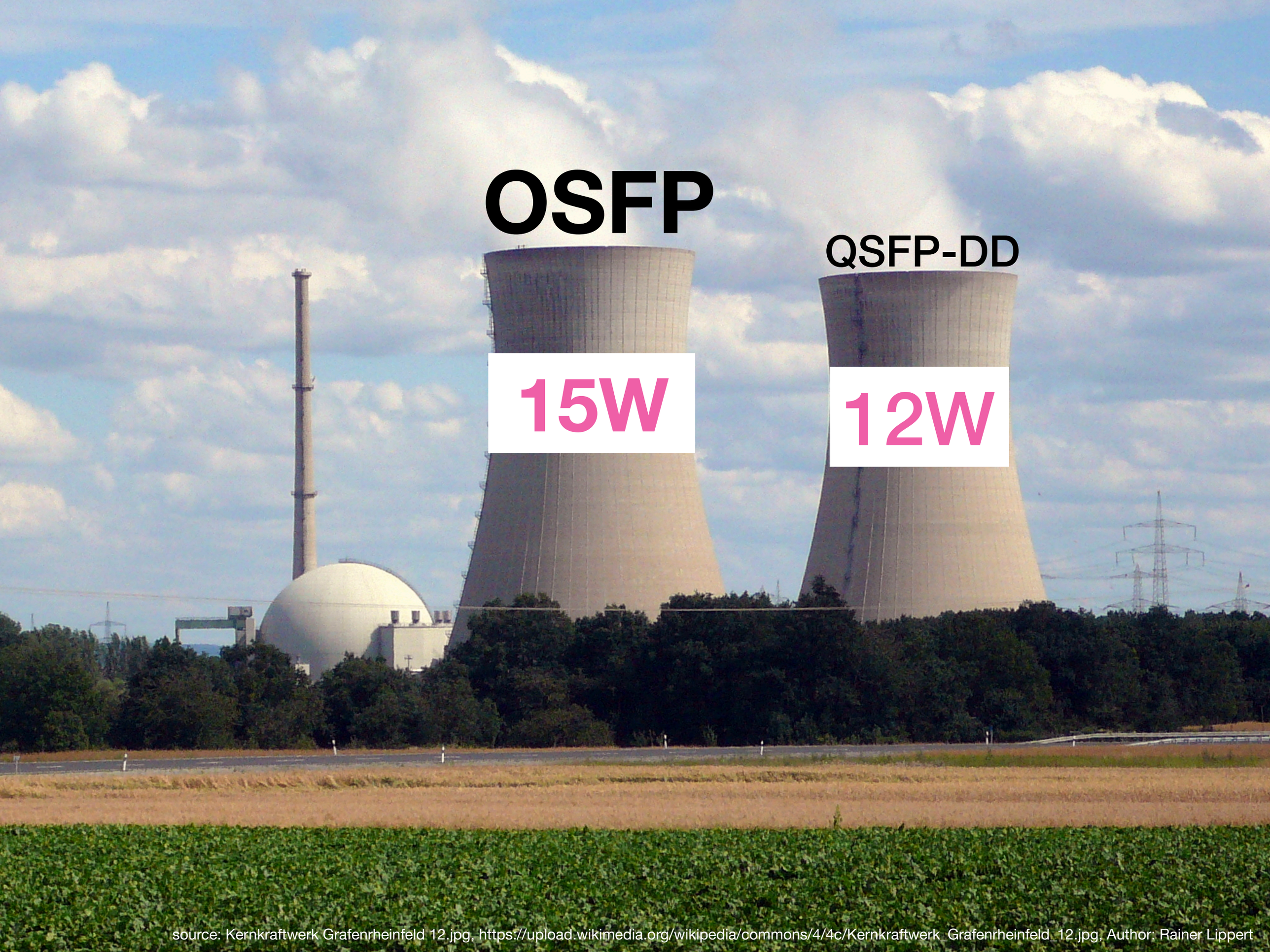
LR4

λ

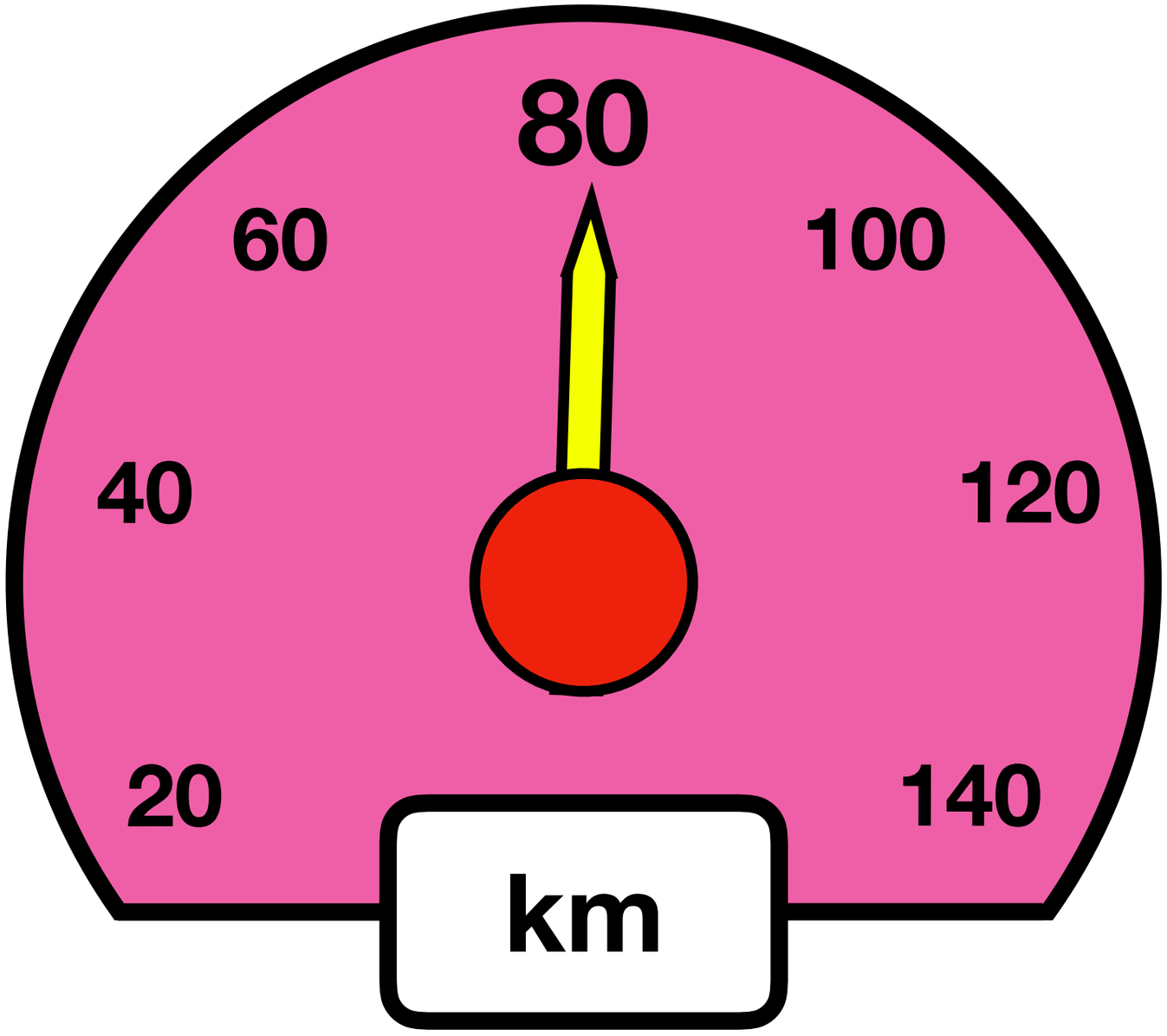
LAN WDM
5nm

10 km

100GLambda MSA & IEEE 802.3bs



source: Kernkraftwerk Grafenrheinfeld 12.jpg, https://upload.wikimedia.org/wikipedia/commons/4/4c/Kernkraftwerk_Grafenrheinfeld_12.jpg, Author: Rainer Lippert



ZR coherent DWDM

THE FLEXBOX CREATORS

THOMAS.WEIBLE@FLEXOPTIX.NET

1
revolutionary development

53
flexperts

45916
transceiver compatibilities

THANK YOU

FLEXOPTIX