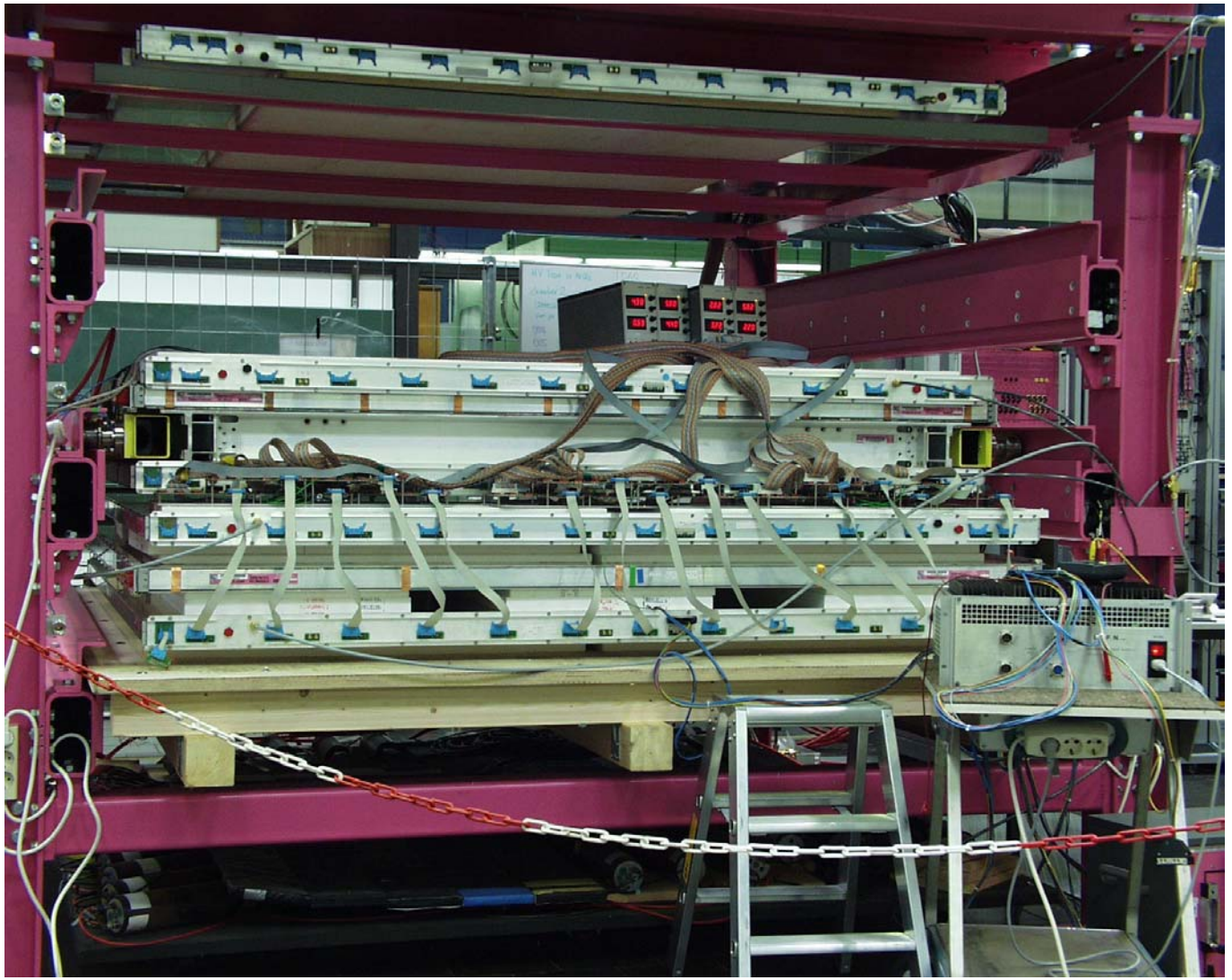
Quality Control at Aachen Site

- Quality Control
- Noise
- Dead channel statistics
- Efficiency
- Planarity of assembled chambers



Verify the Quality of Produced SL

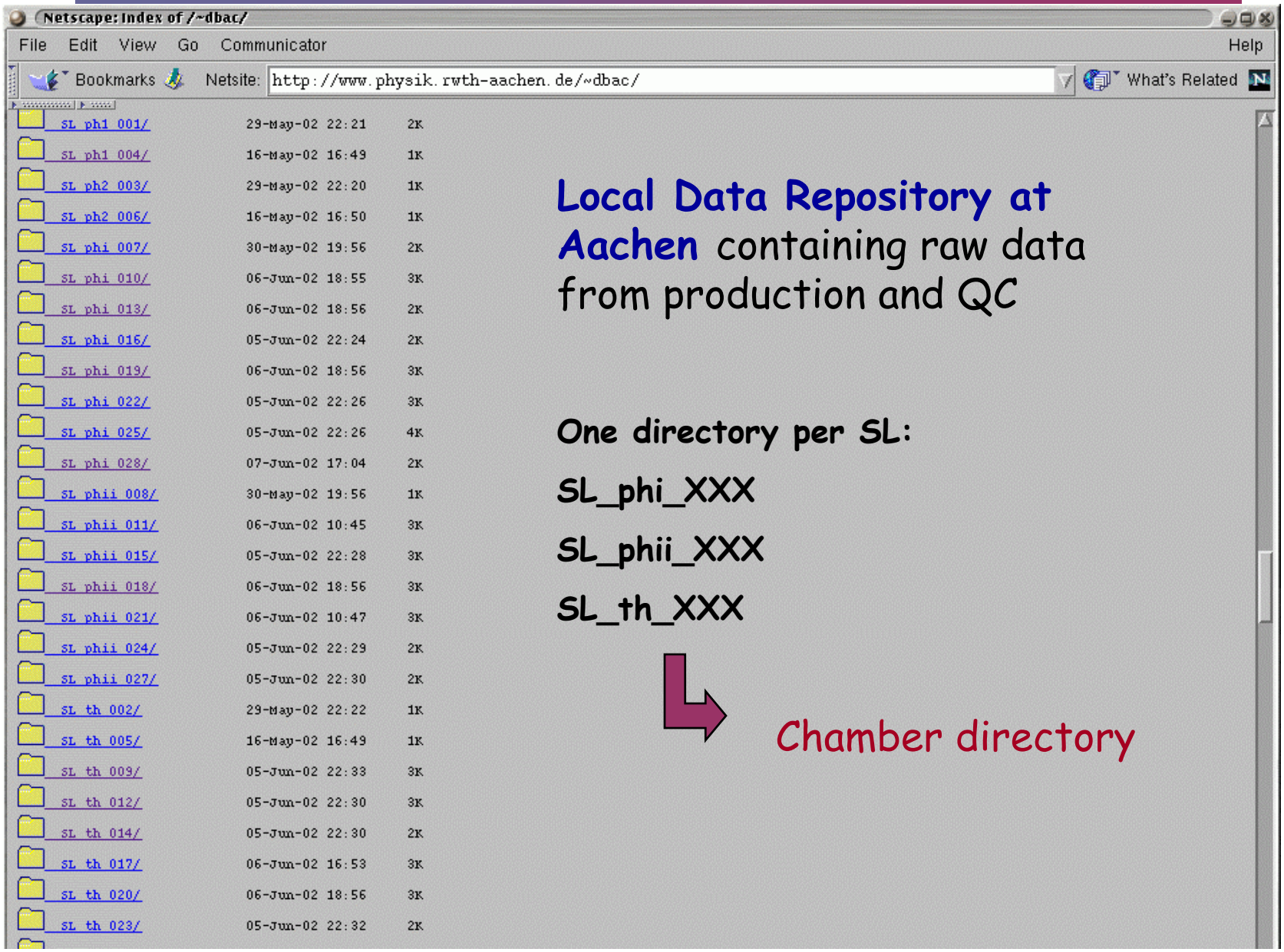
- Wire tension -> OK
- Wire position, corner block position, thickness -> OK
- Chamber planarity -> under control
- HV stability in $ArCO_2$ (3700/1800/-1400 V @ Aachen) -> Good
- Gastightness -> 3/40 SL below 140 min
- Electrical functionality of all cells -> Cosmics Teststand
- TDC time window, check for disconnected electrodes
- Noise behaviour -> plots
- Efficiency -> plots

40 SL out of 45 mechanically finished SL are fully tested

QC criteria fulfilled

➡ Raw data & summary files are stored in Aachen DB

Data Storage in Aachen



Local Data Repository at Aachen containing raw data from production and QC

One directory per SL:

SL_phi_XXX

SL_phii_XXX

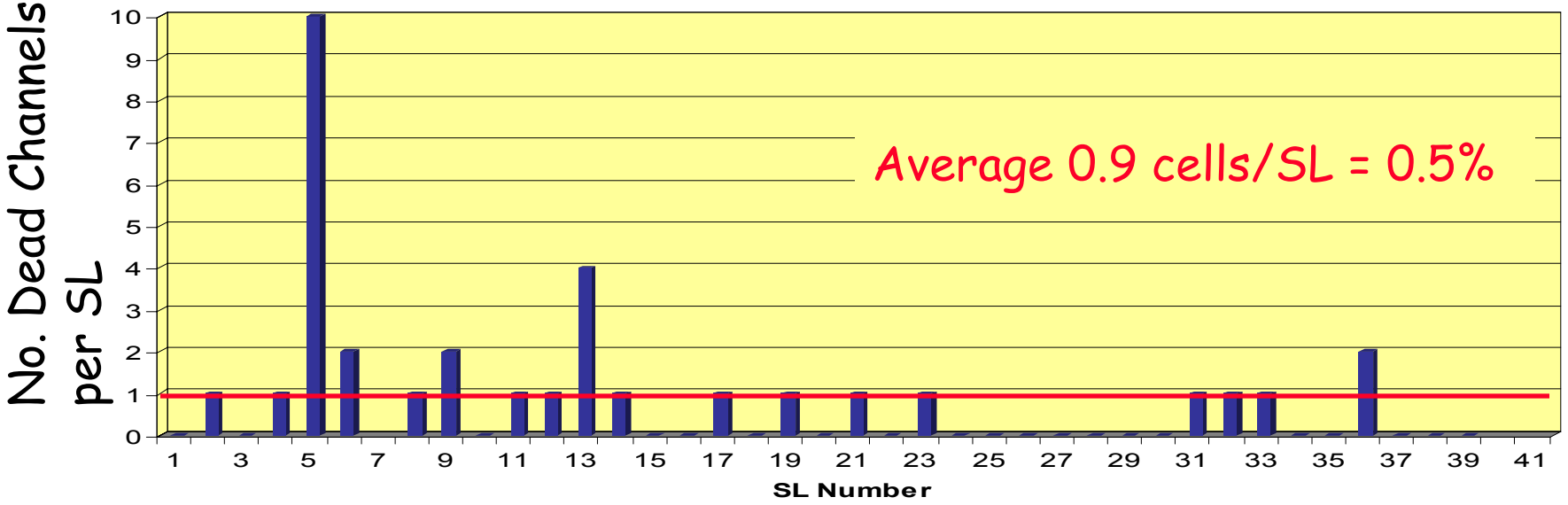
SL_th_XXX

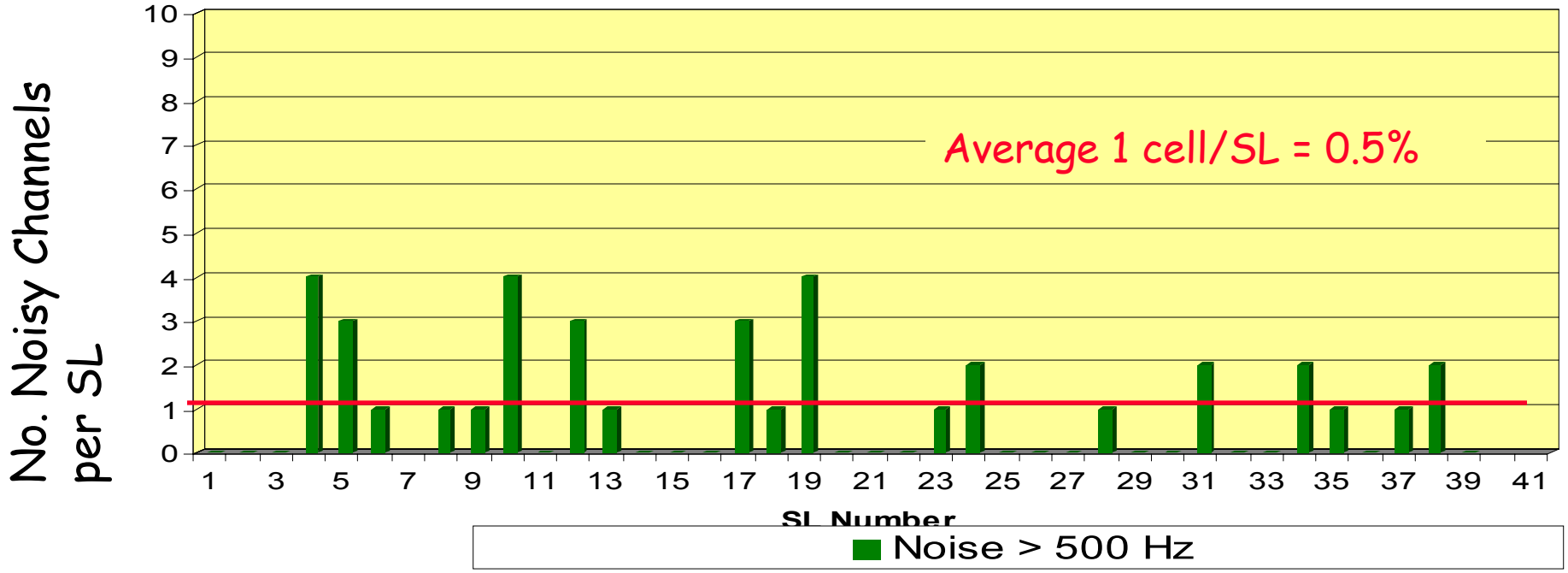
Chamber directory

Some QC parameters in more detail

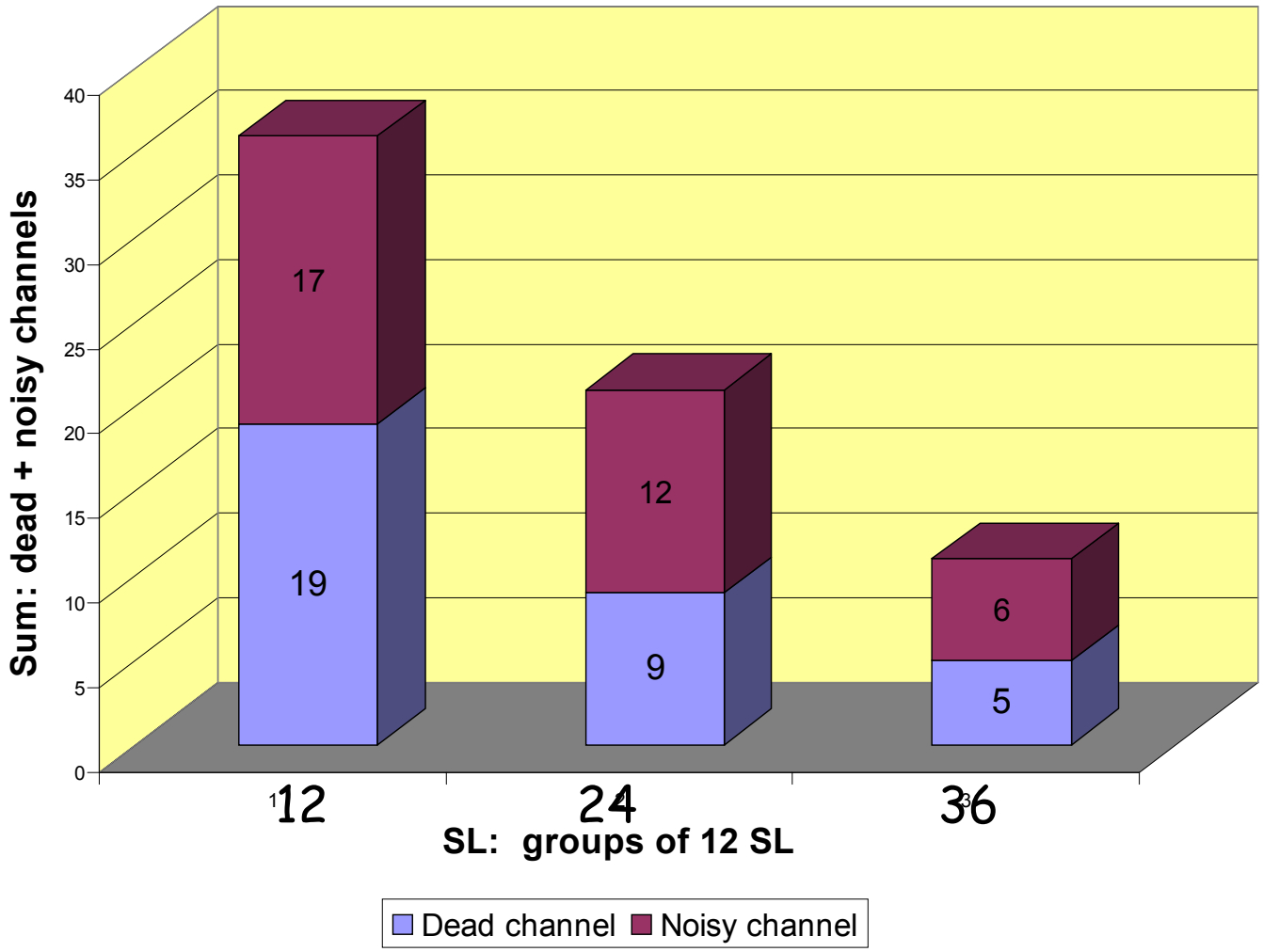
- Dead & noisy channel
- Efficiency
- Noise
- Chamber planarity

Dead & Noisy Channels

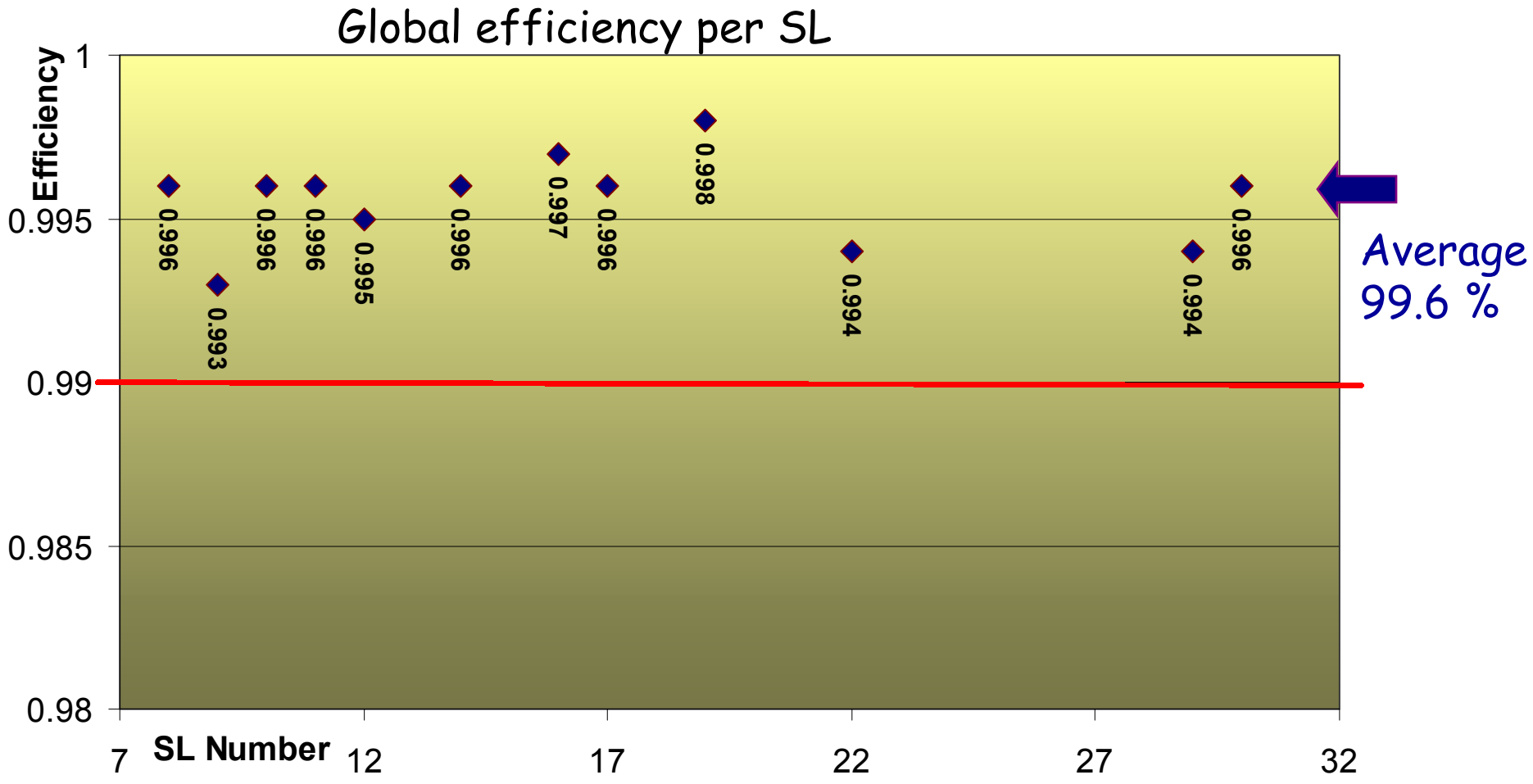




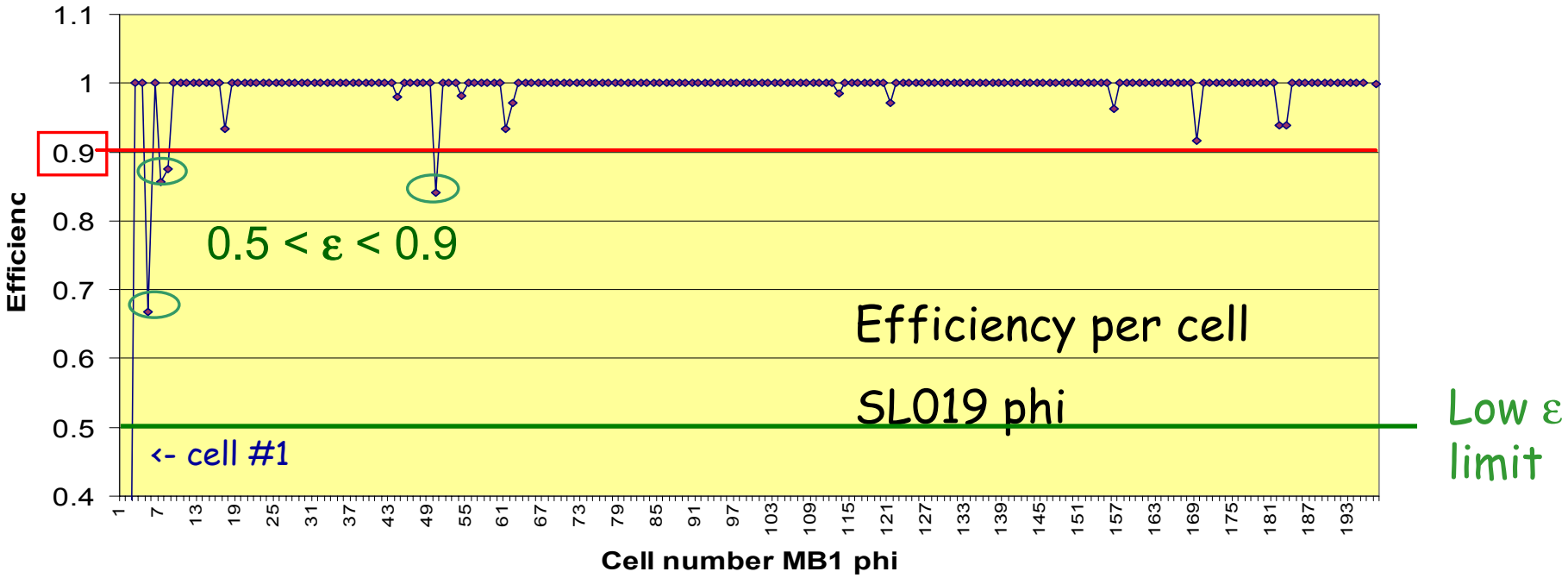
Development with Time...



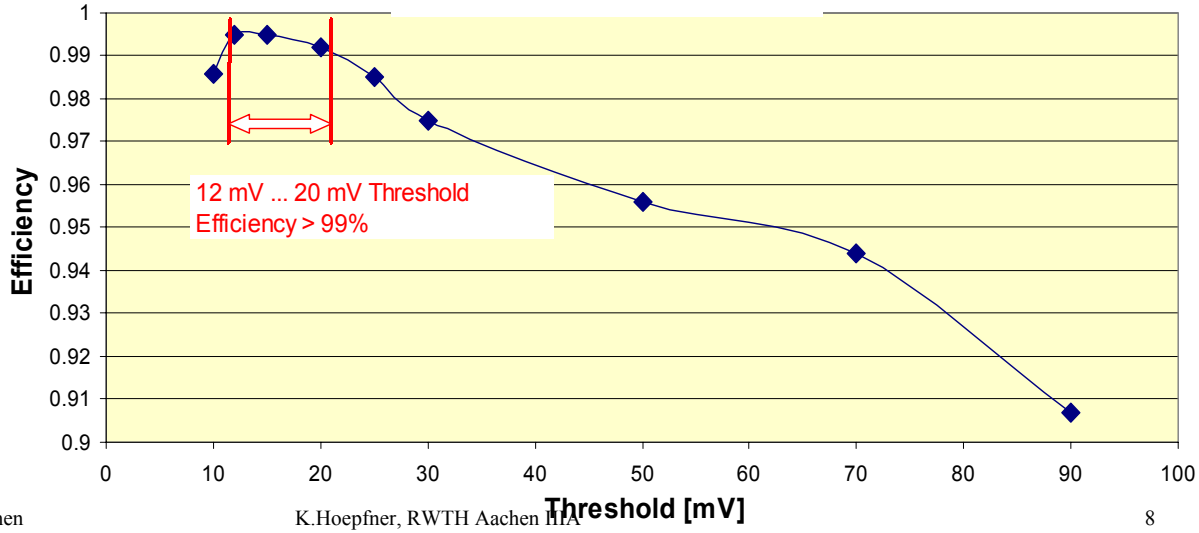
Efficiency


Global efficiency per SL
Efficiency
1
0.995
0.99
0.985
0.98
0.996
0.993
0.996
0.996
0.995
0.996
0.997
0.996
0.998
0.994
0.994
0.996
SL Number
7
12
17
22
27
32
Average
99.6 %

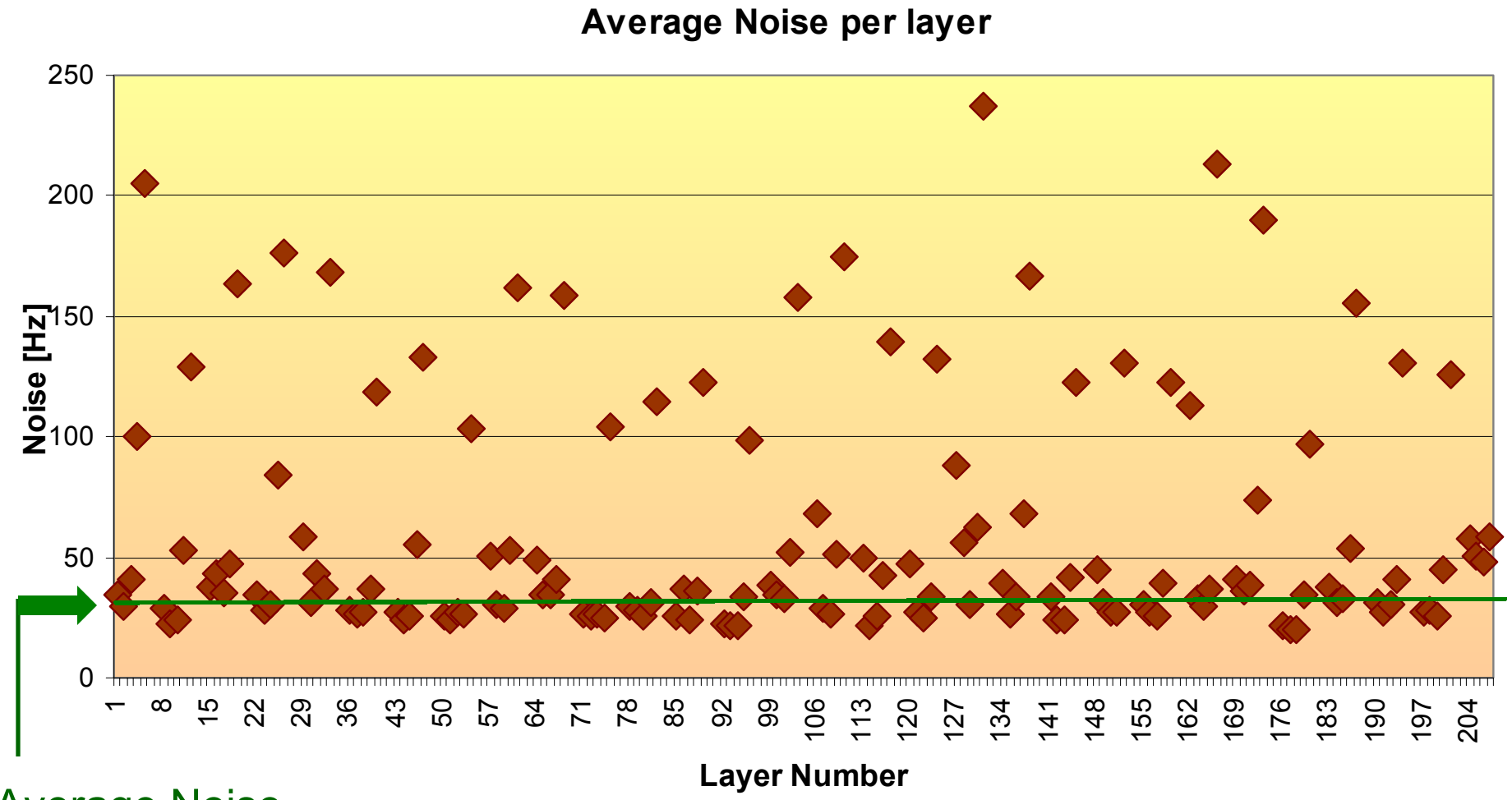
Efficiency



Efficiency vs. threshold

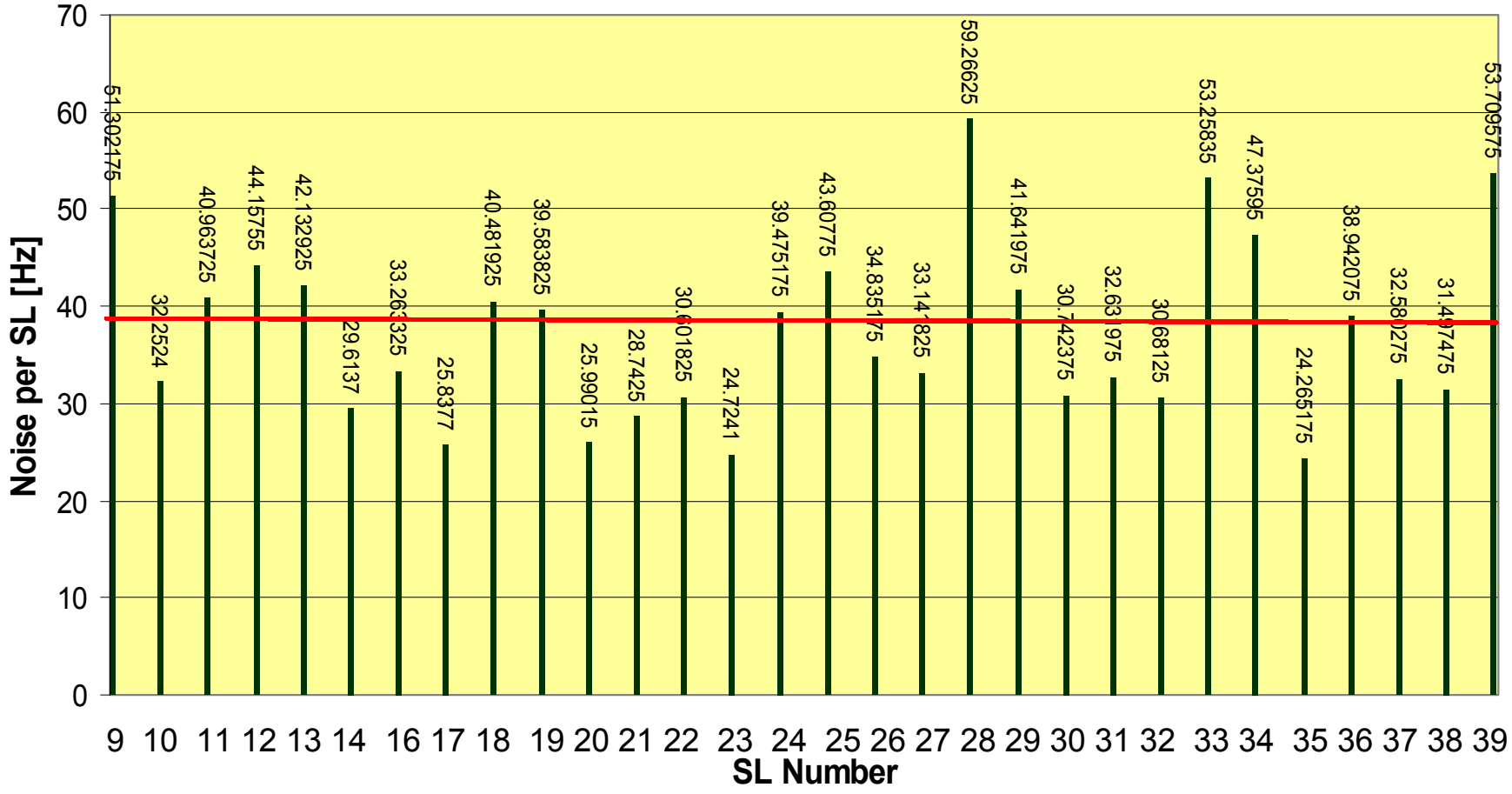


Noise



Average Noise per Layer 38 Hz
(incl. Noisy channel)

Average Noise per SL



Planarity of Chambers