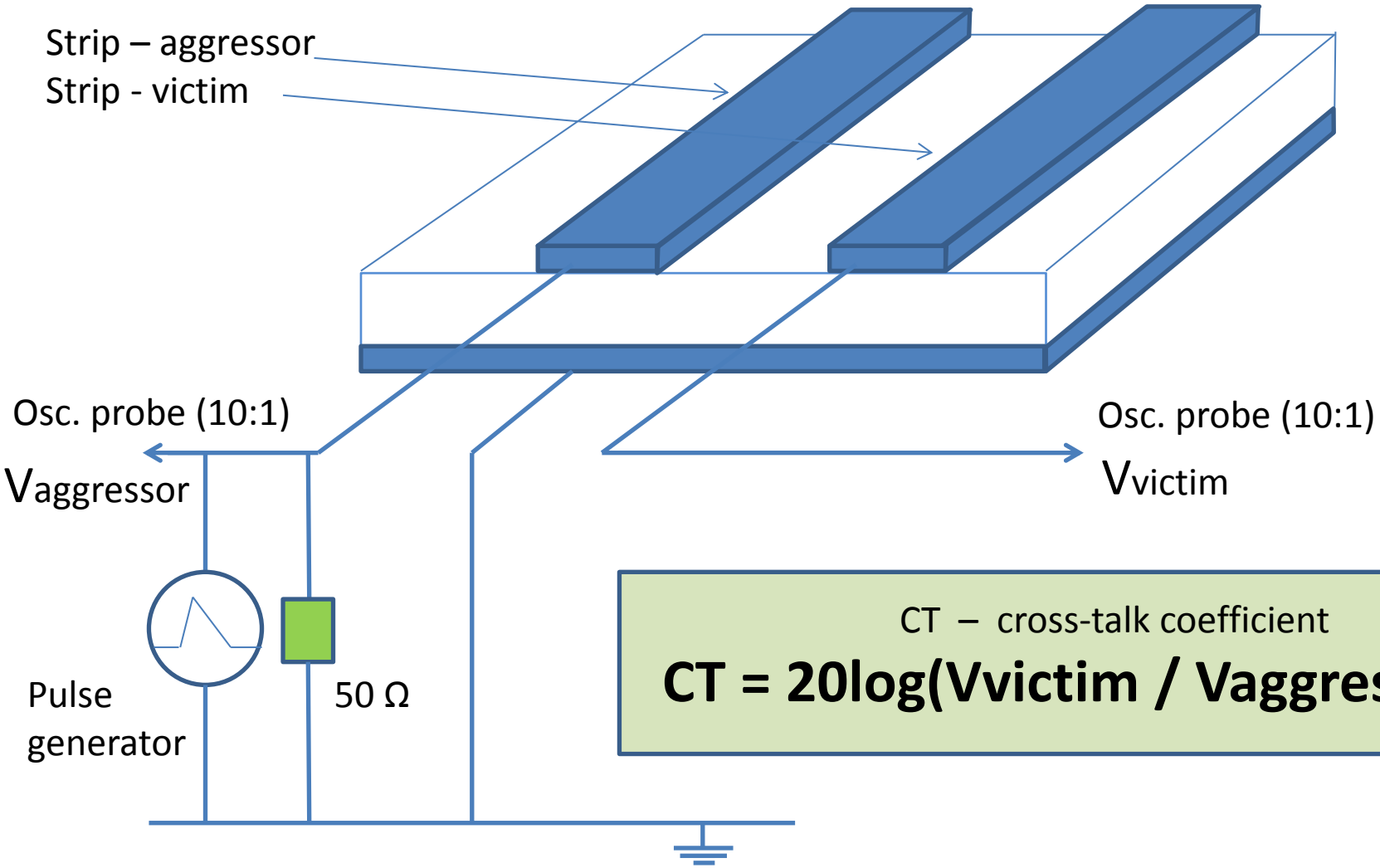
First measurements of cross-talks on TAU and INP fanout kaptons

W. Daniluk, A. Moszczynski,
T. Wojton, L. Zawiejski,
INP PAS Krakow, Poland

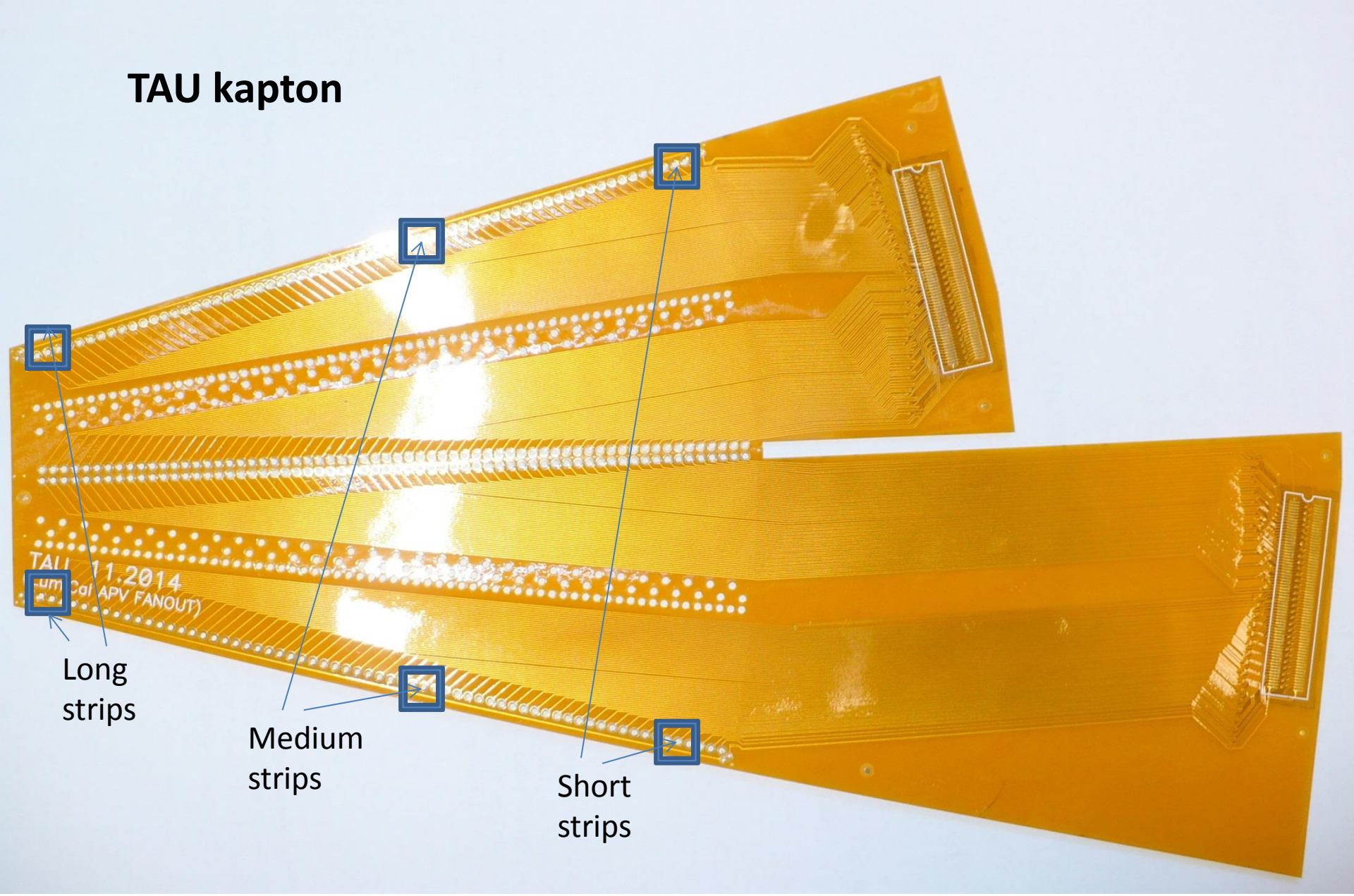
Scheme of measurement setup



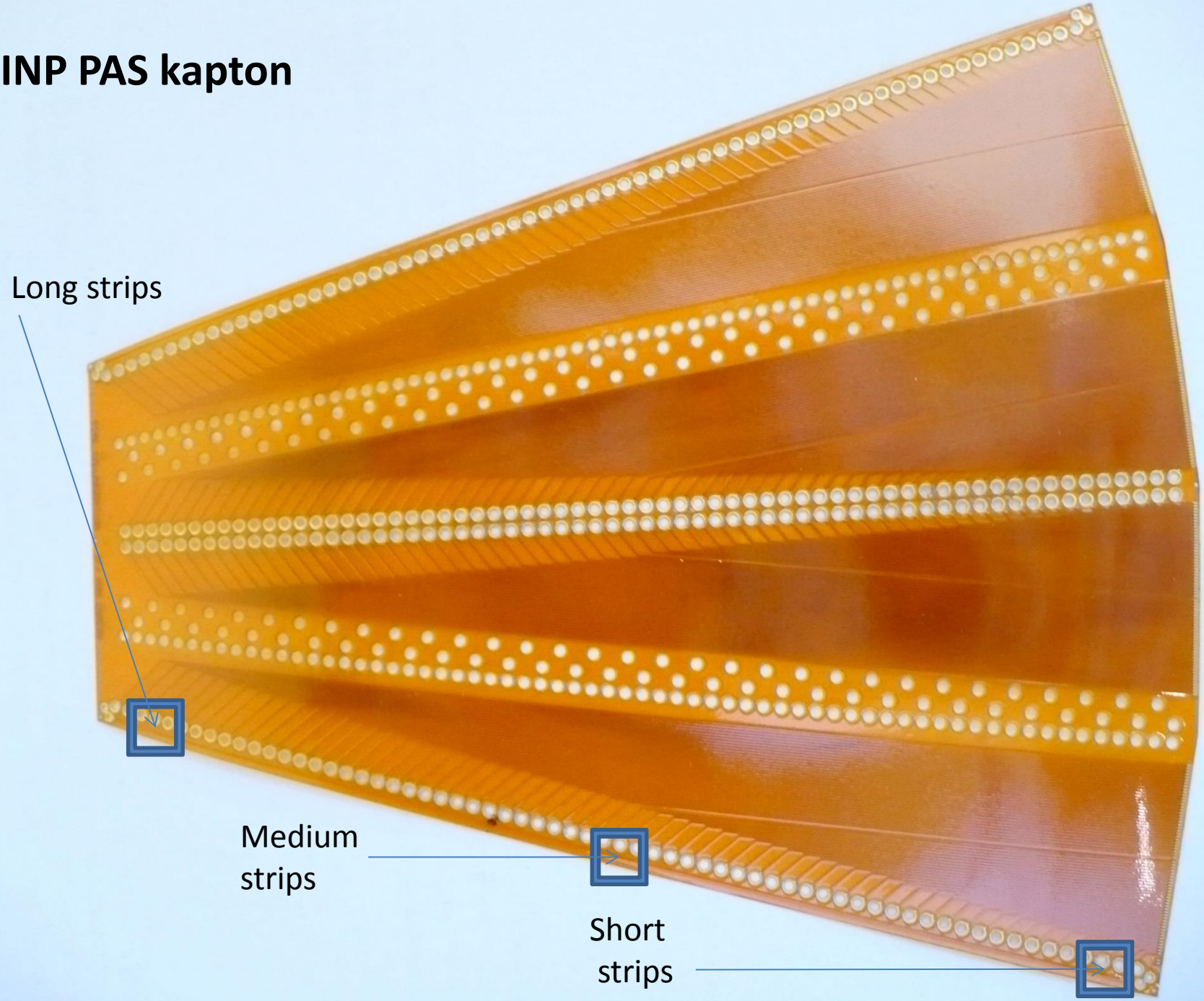
CT – cross-talk coefficient

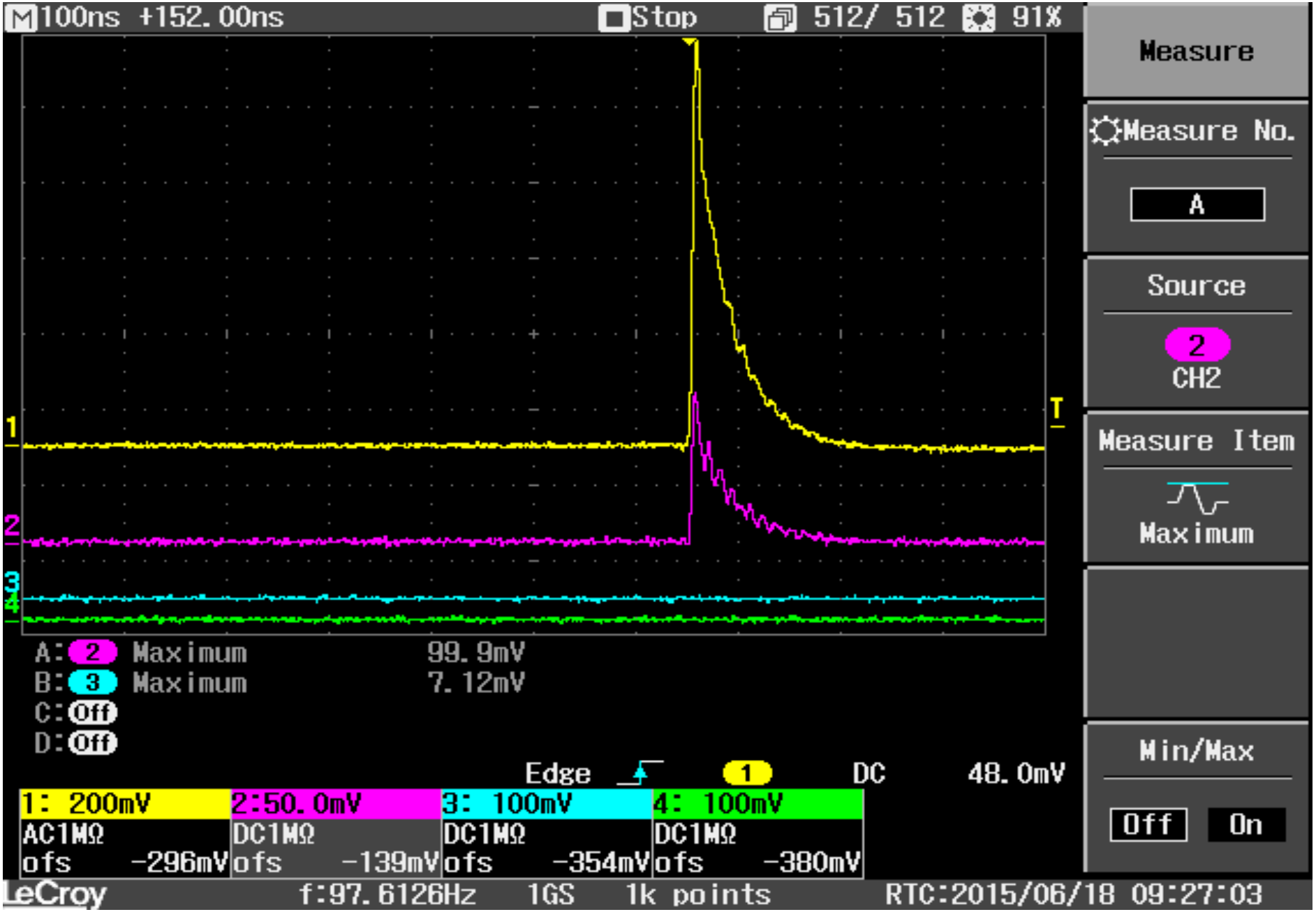
CT = 20log(Vvictim / Vaggressor)

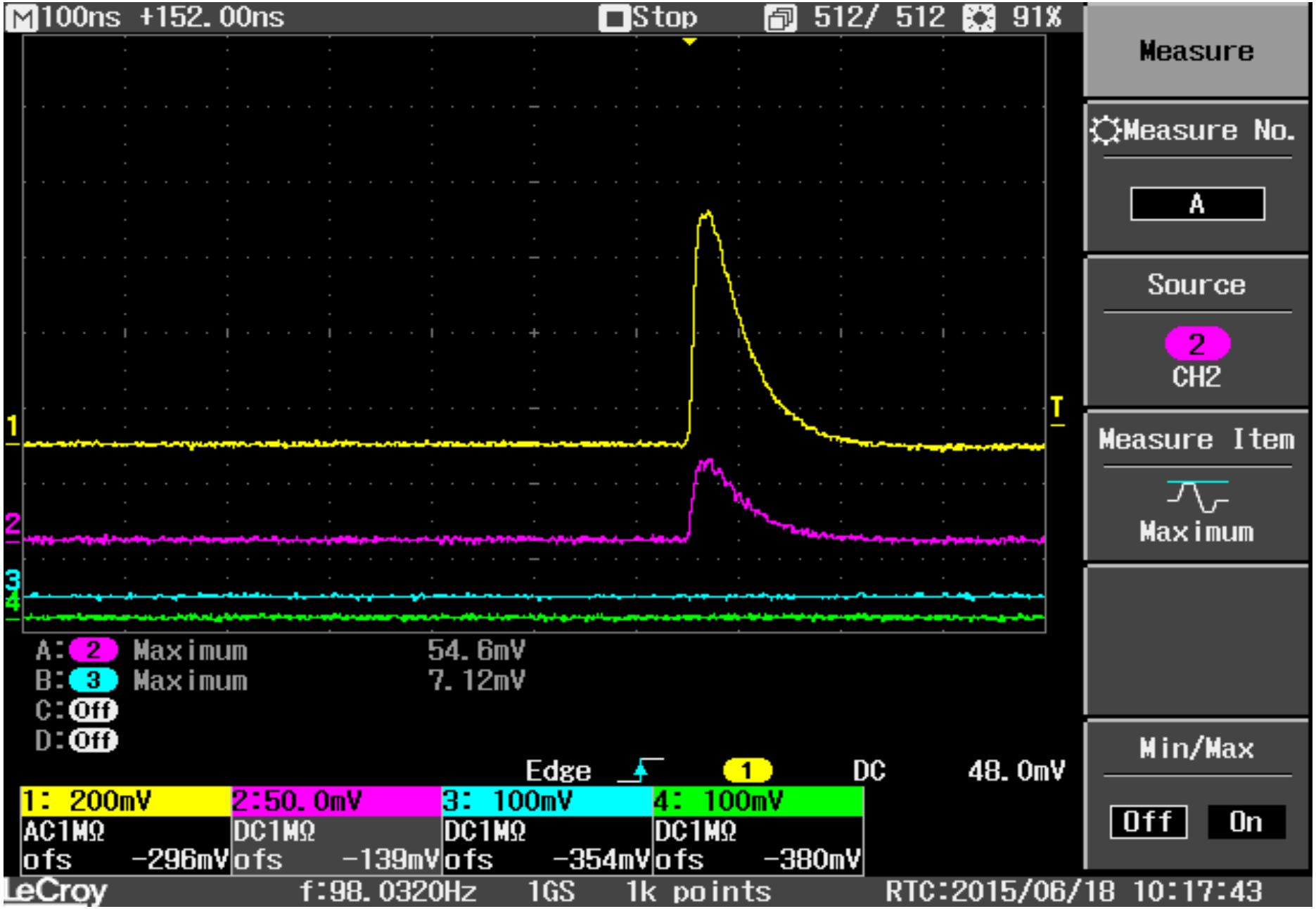
TAU kapton

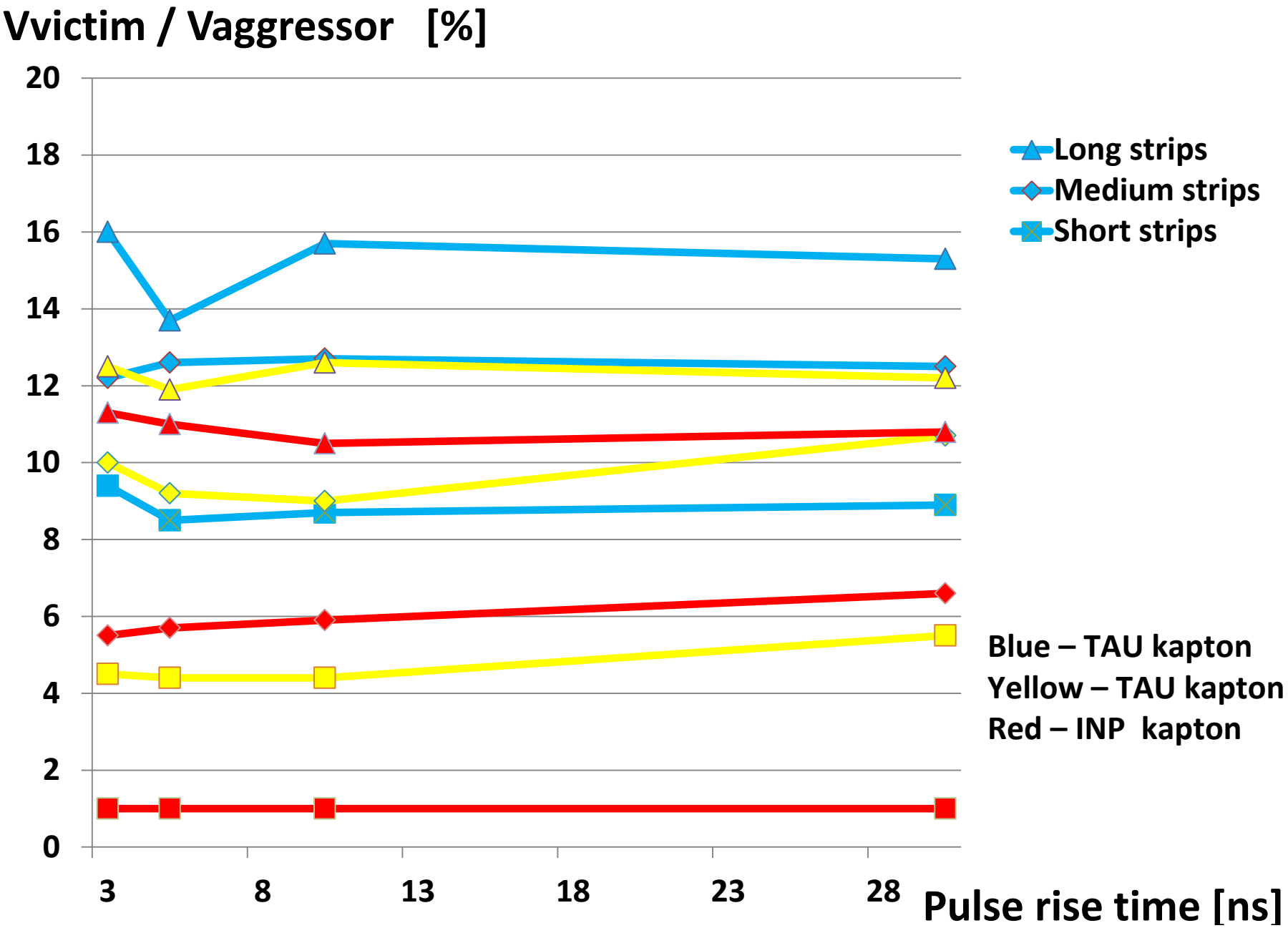

TAU 11.2014
APV FANOUT)
Long strips
Medium strips
Short strips

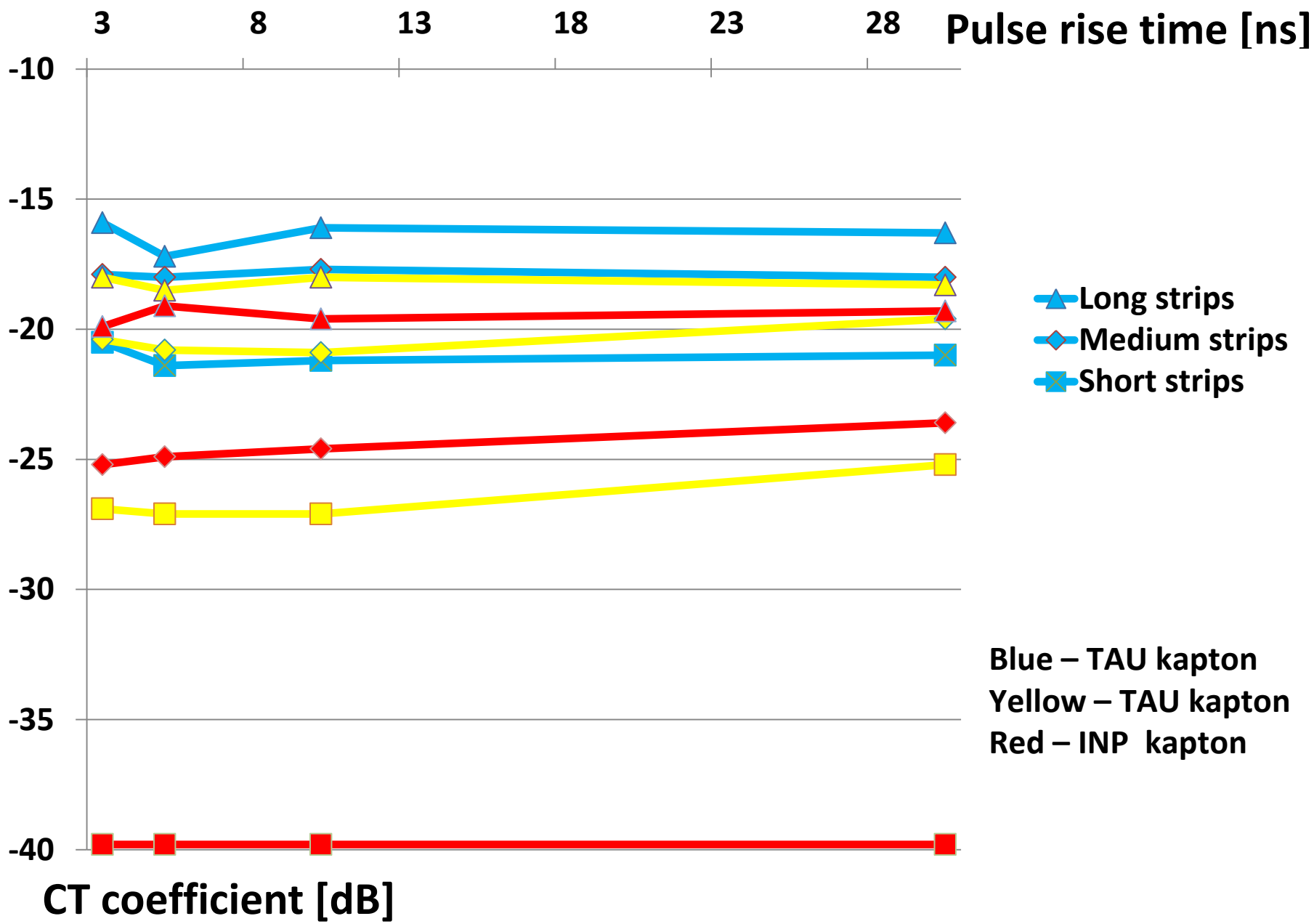
INP PAS kapton




M 100ns +152.00ns
Stop
512/ 512
91%
Measure
Measure No.
A
Source
2
CH2
Measure Item
Maximum
A: 2 Maximum 99.9mV
B: 3 Maximum 7.12mV
C: Off
D: Off
Edge
1
DC
48.0mV
1: 200mV
AC1MΩ
ofs -296mV
2:50.0mV
DC1MΩ
ofs -139mV
3: 100mV
DC1MΩ
ofs -354mV
4: 100mV
DC1MΩ
ofs -380mV
Min/Max
Off
On
LeCroy
f:97.6126Hz 1GS 1k points
RTC:2015/06/18 09:27:03


M 100ns +152.00ns
Stop
512/ 512
91%
Measure
Measure No.
A
Source
2
CH2
Measure Item
Maximum
A: 2 Maximum 54.6mV
B: 3 Maximum 7.12mV
C: Off
D: Off
Edge
1
DC
48.0mV
1: 200mV
AC1MΩ
ofs -296mV
2:50.0mV
DC1MΩ
ofs -139mV
3: 100mV
DC1MΩ
ofs -354mV
4: 100mV
DC1MΩ
ofs -380mV
Min/Max
Off
On
LeCroy
f:98.0320Hz 1GS 1k points
RTC:2015/06/18 10:17:43


Vvictim / Vaggressor [%]
20
18
16
14
12
10
8
6
4
2
0
3
8
13
18
23
28
Pulse rise time [ns]
Long strips
Medium strips
Short strips
Blue – TAU kapton
Yellow – TAU kapton
Red – INP kapton


3
8
13
18
23
28
Pulse rise time [ns]
-10
-15
-20
-25
-30
-35
-40
CT coefficient [dB]
Long strips
Medium strips
Short strips
Blue – TAU kapton
Yellow – TAU kapton
Red – INP kapton

Summary and plans

First measurements performed in time domain (on „near end” of victim strips, in open circuit configuration) showed potentialy dangerous values of CT for long strips on TAU kapton.

In next step we plan to solder delivered sockets to TAU kapton (it will alow to terminate the circuits) and perform measurements of CT for „near end” and „far end” of victim strips.