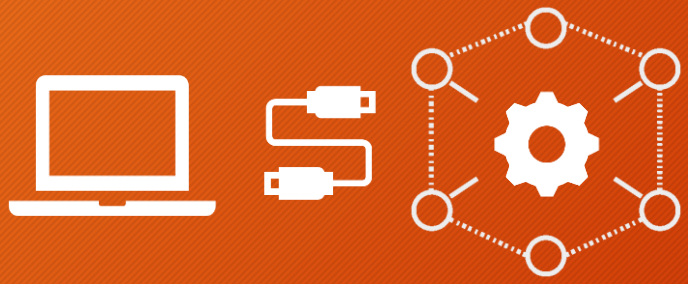


Instrument read-out & Experiment optimization in simulation: Experience from the past.

Volodymyr Rodin

Outline

Goal

Energy selection

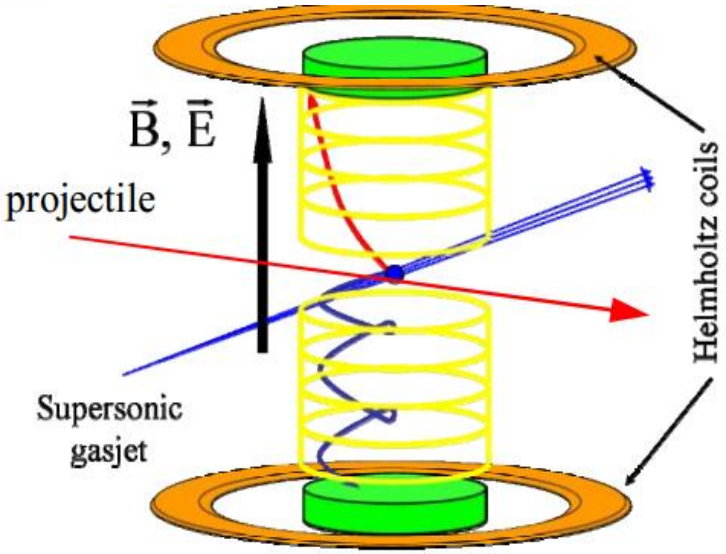
Design vs Reality

Interfaces

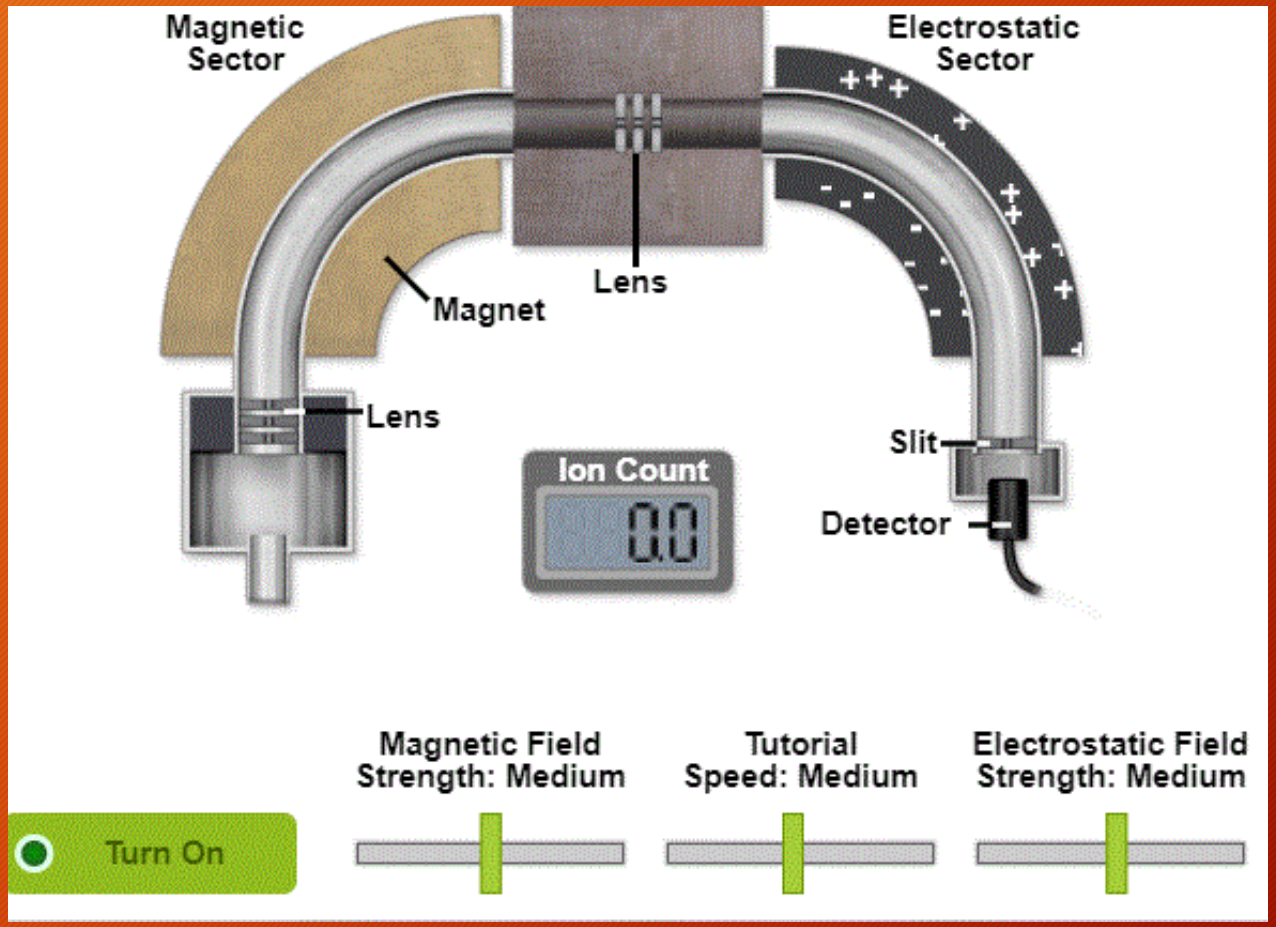
Conclusion

Goal

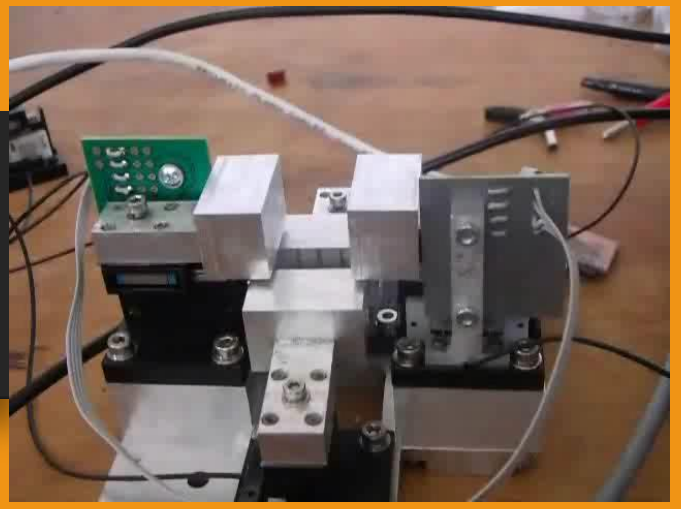
- Investigation of low energy antiproton collisions with gas jet target.
- Design of reaction microscope and reaction rates.
- Highly depends on interacting beam quality! Time and energy parameters.

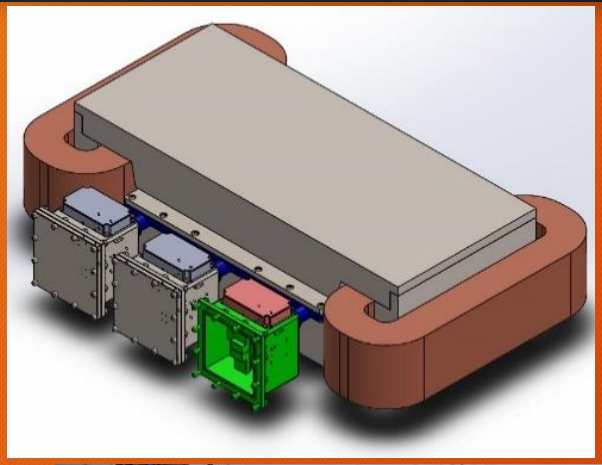


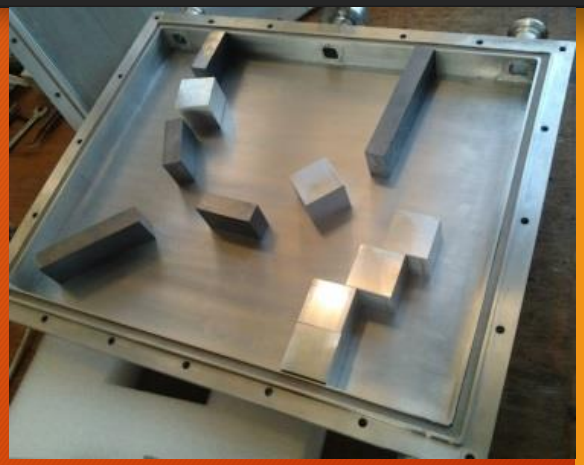
Energy selection

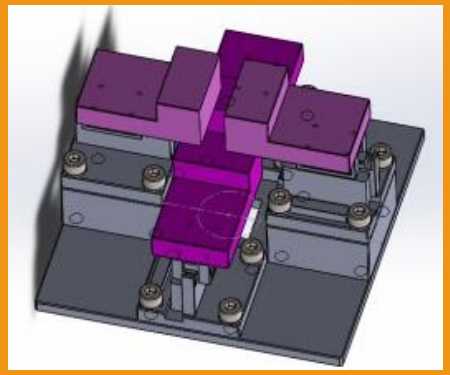


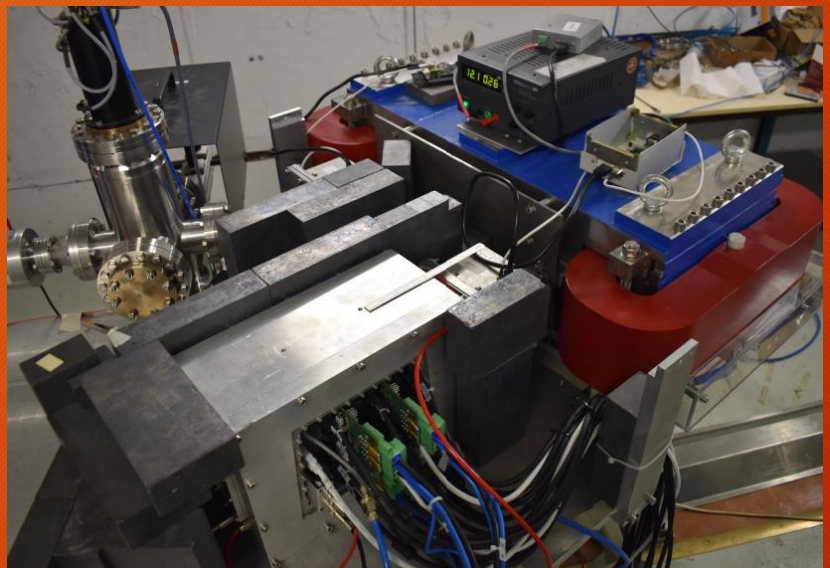
Design vs Reality

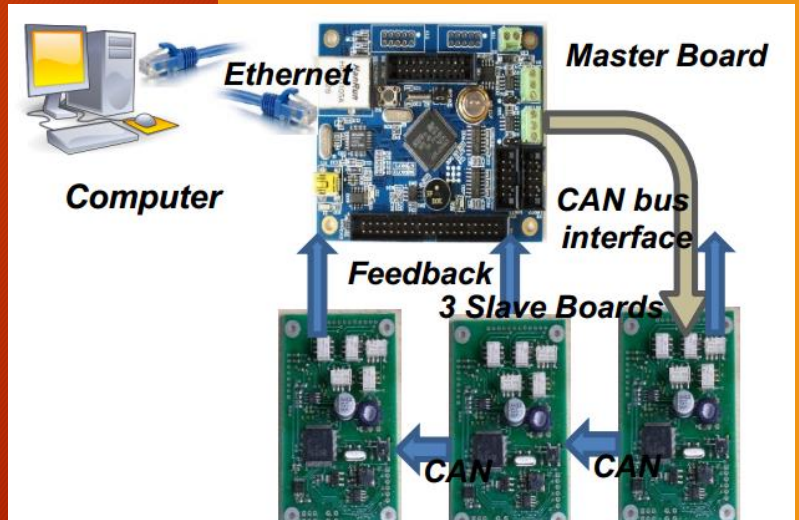




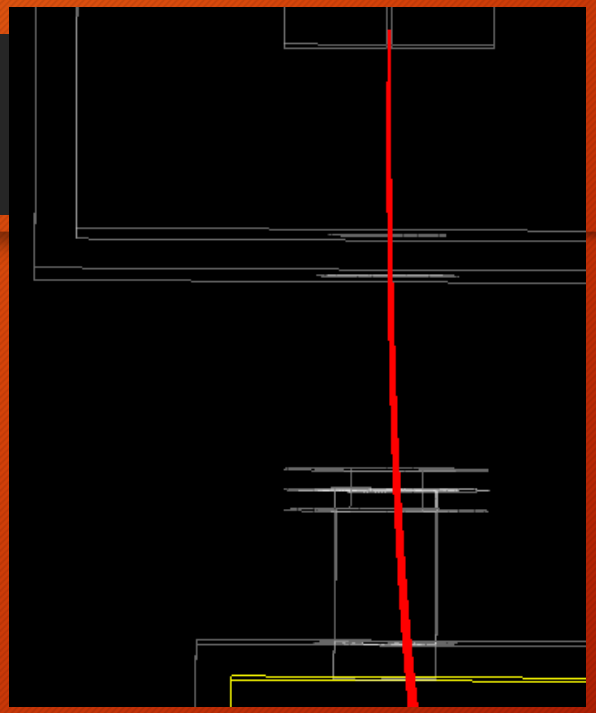


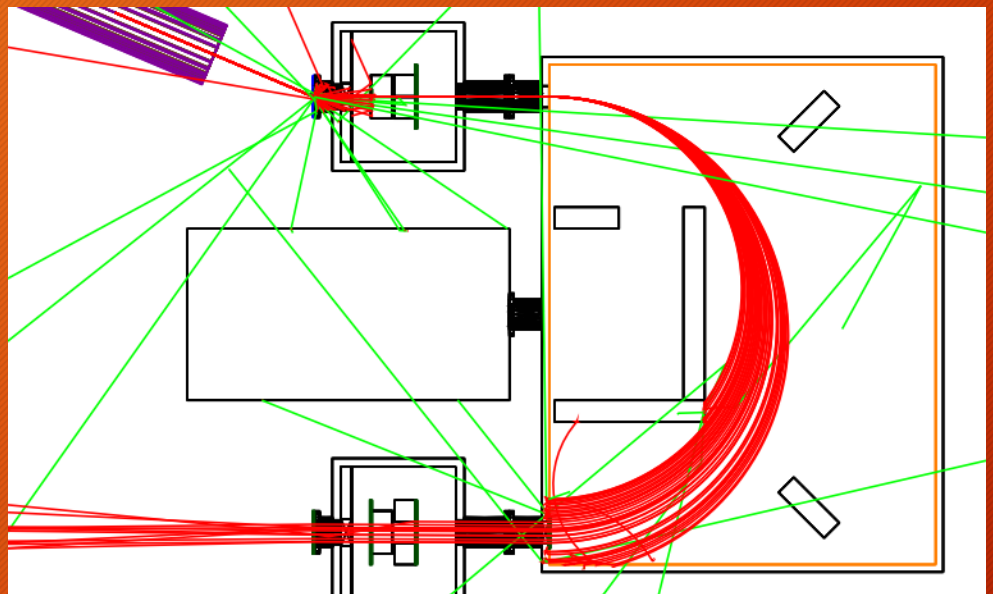


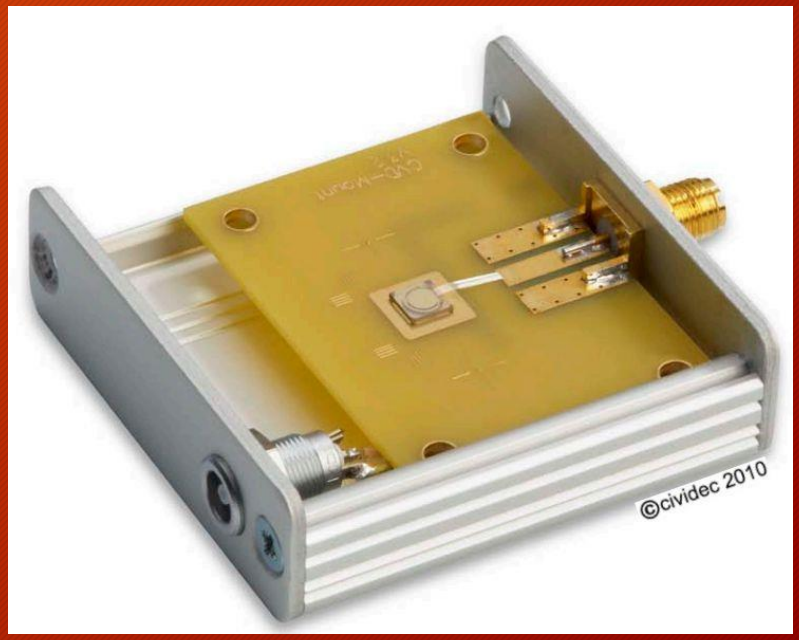




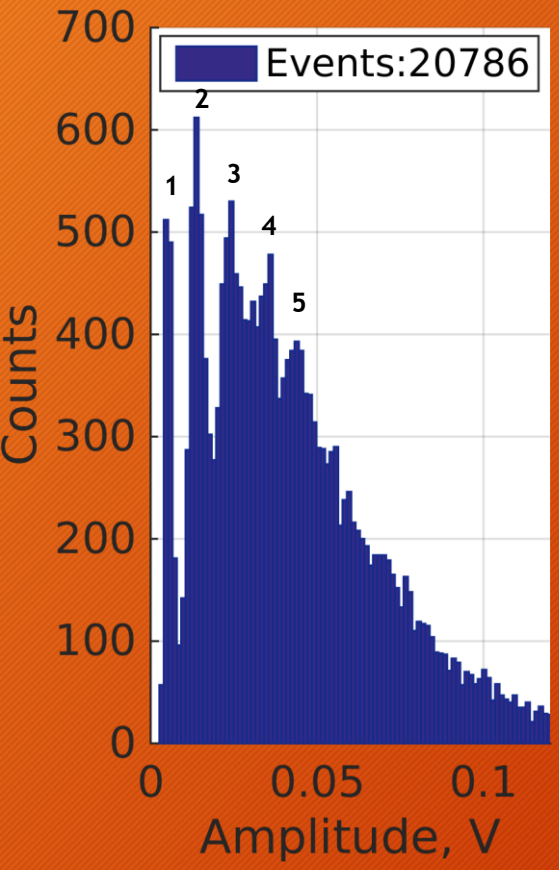
Design vs Reality

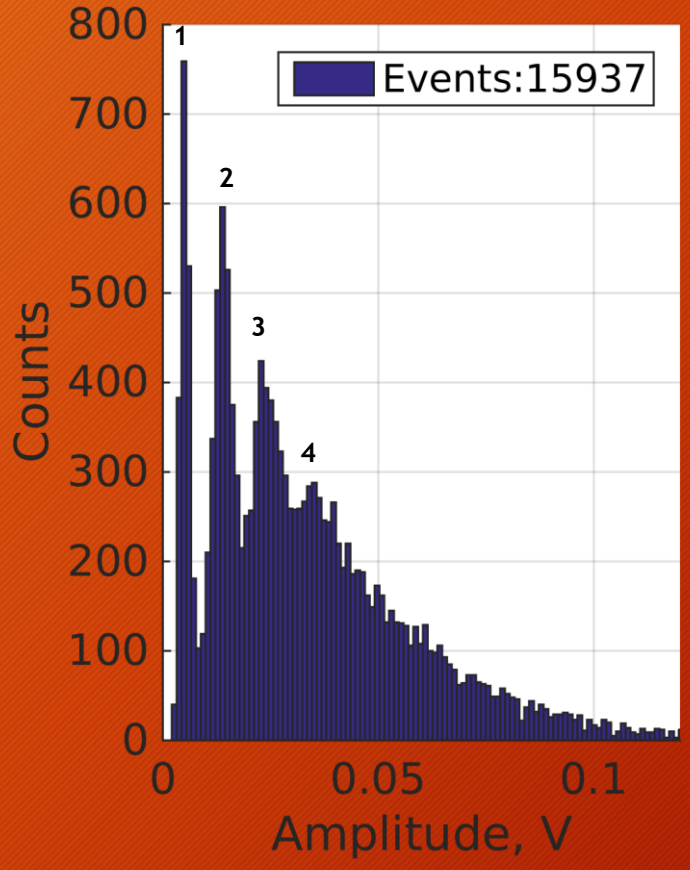


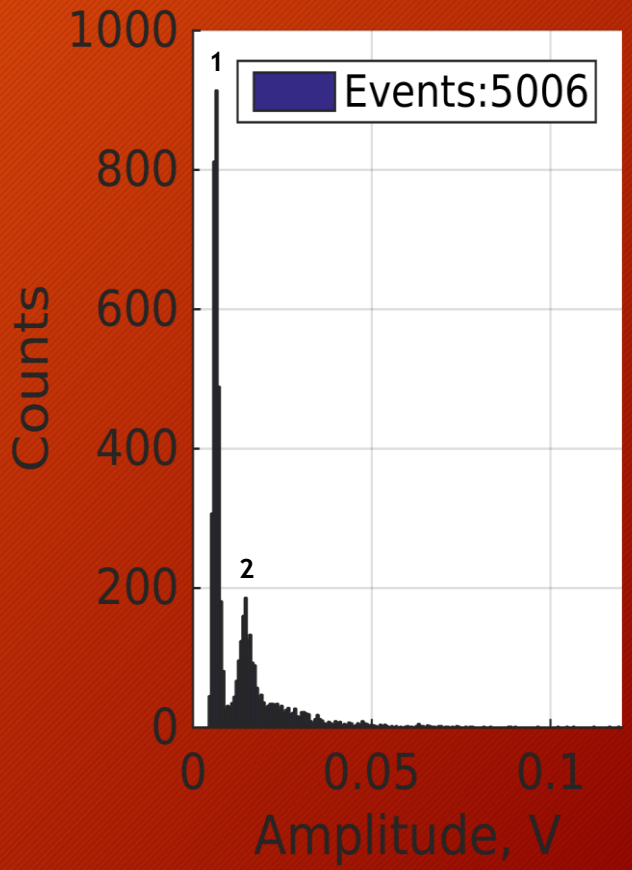


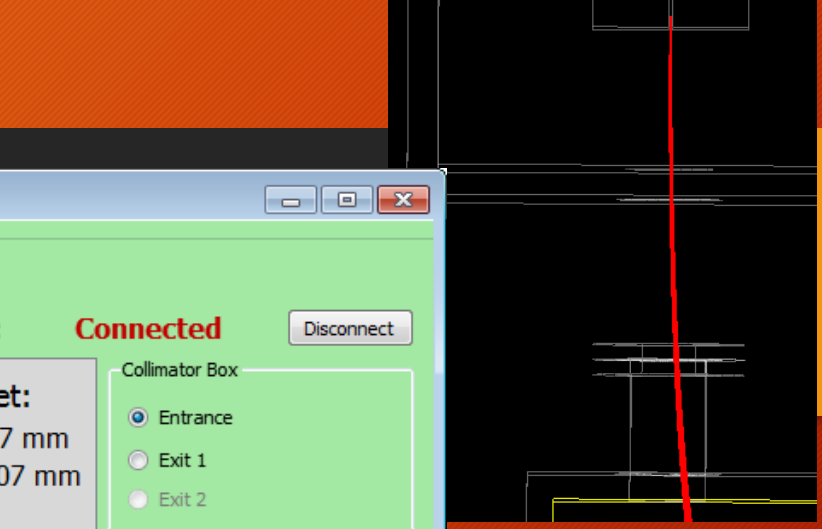


Design vs Reality









LEETECH control

Collimators control

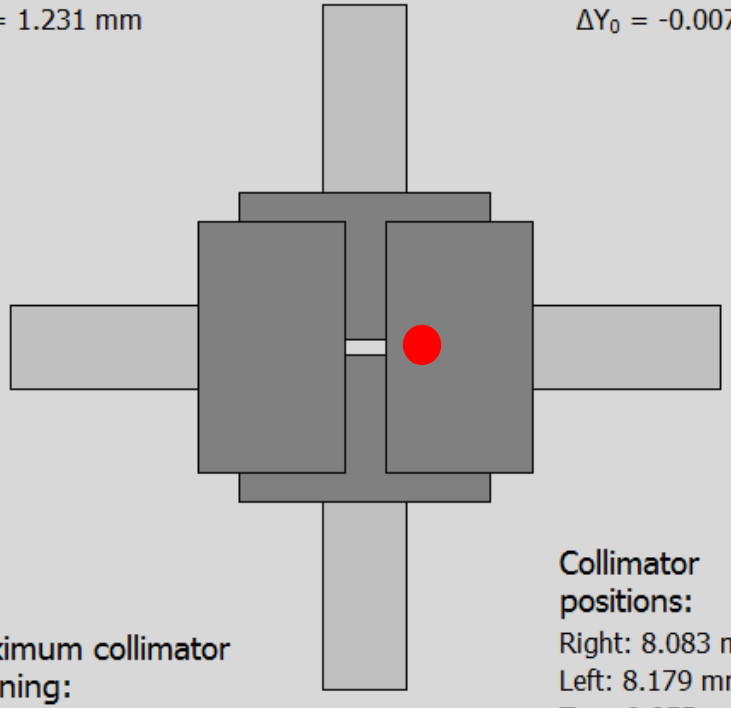
IP address 134.158.91.38

Status: Connected

Disconnect

Hole Size:
ΔX = 3.732 mm
ΔY = 1.231 mm

Hole Offset:
ΔX_0 = 0.047 mm
ΔY_0 = -0.007 mm



Maximum collimator opening:
ΔX_{max} = 19.994 mm
ΔY_{max} = 20.925 mm

Collimator positions:
Right: 8.083 mm
Left: 8.179 mm
Top: 9.855 mm
Bottom: 9.839 mm

Collimator Box
- Entrance
- Exit 1
- Exit 2

Collimators actions
- Right 6 mm
- Left — Move
- Top
- Bottom — Reset
- Reset All

Hole Size
- Horizontal 3.7 mm
- Vertical 18 mm

Hole Center Offset
- Horizontal -5 mm
- Vertical 0 mm

Period of PWM
260 = 6.5 us

Board

Control

Select

Move jaw

Jaw N°
Coordi

Reset J

Test

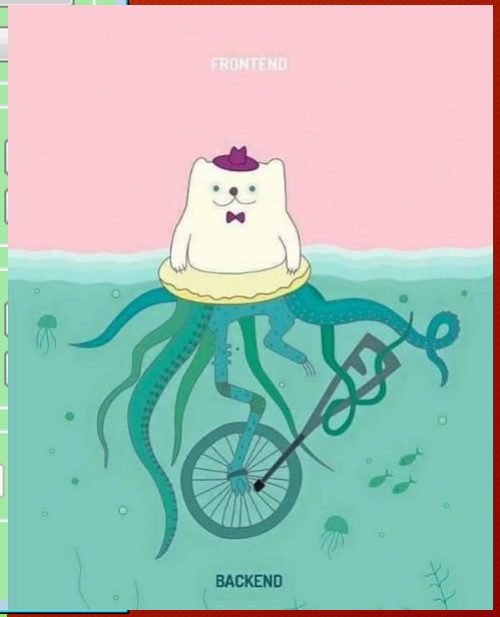
Aut

Pulses p

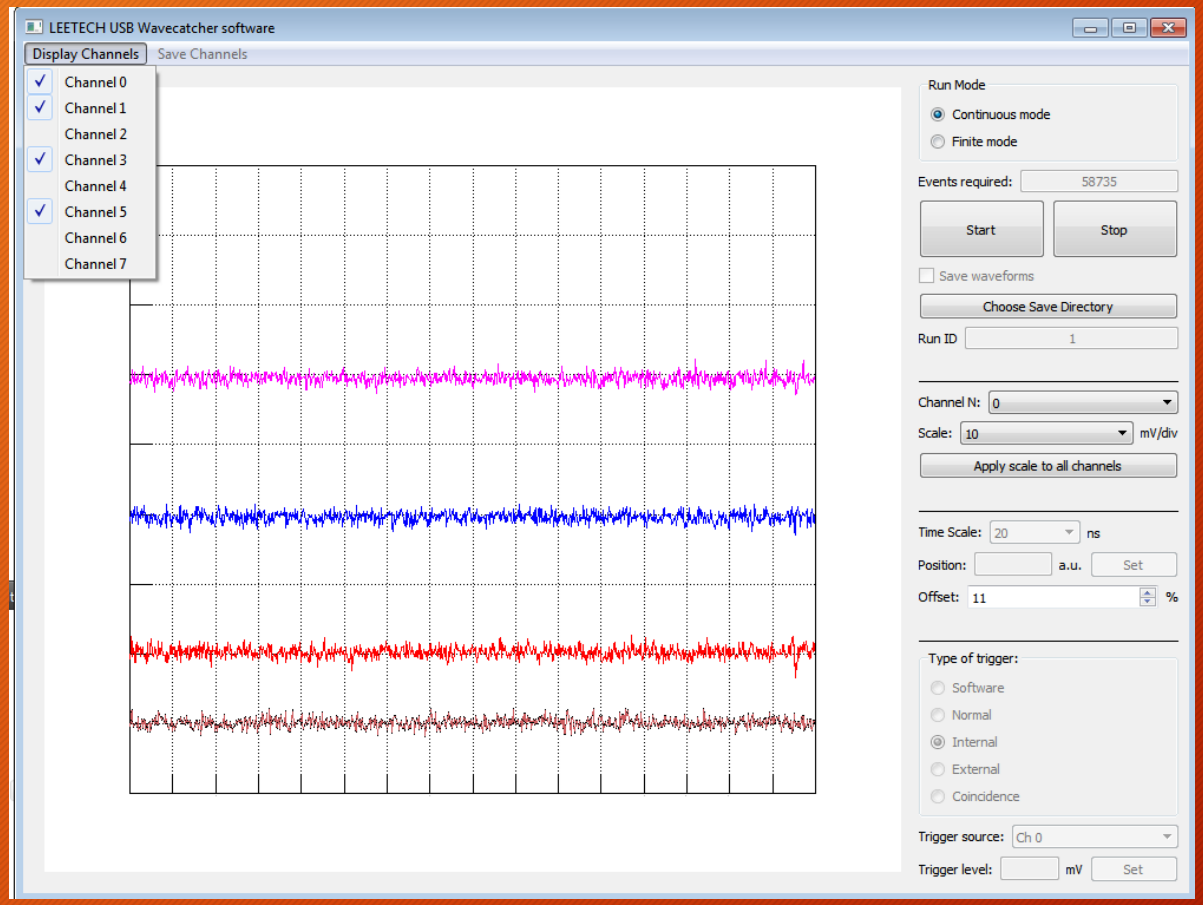
Pulse w

Pulse p

Set



Interface: Scope



Matlab: Instrument Control

Conclusion

- Versatile instrument for any type of studies with energy selection
- Design of your device should provide possibility of error compensation
- User friendly interfaces!!!
- System control is a matter of taste/simplicity and budget