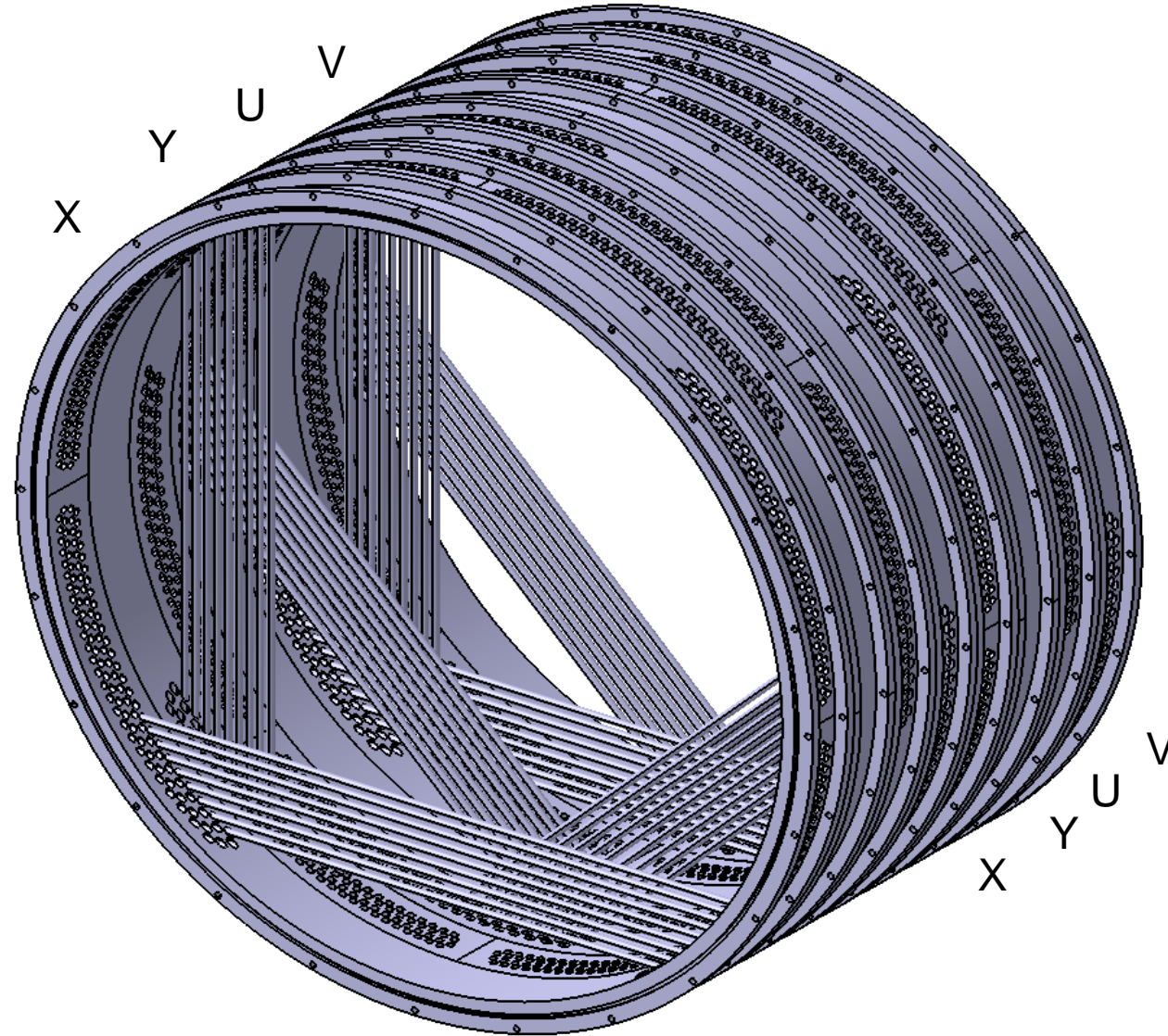


Straw R&D in JINR, Dubna

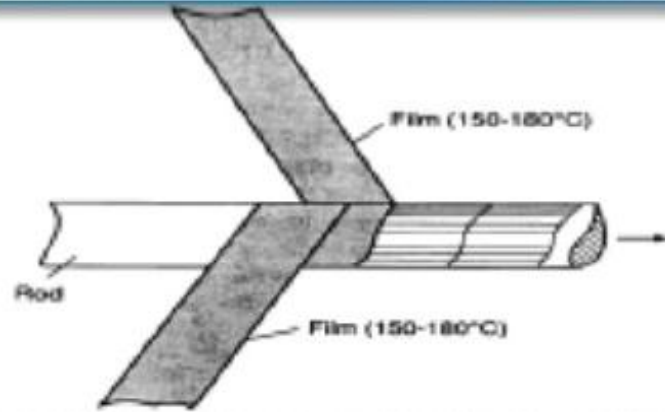
- Ultrasonic welding of straws.
CERN NA62 (~ 2000 straws)
- Using the cathode surface of straw tube for measuring the track coordinates along the wire.
- The use of segmented cathode for designing a track detector with a high rate capability.

5.4. The round shape chamber and vacuum protection.
Multi coordinate straw chamber



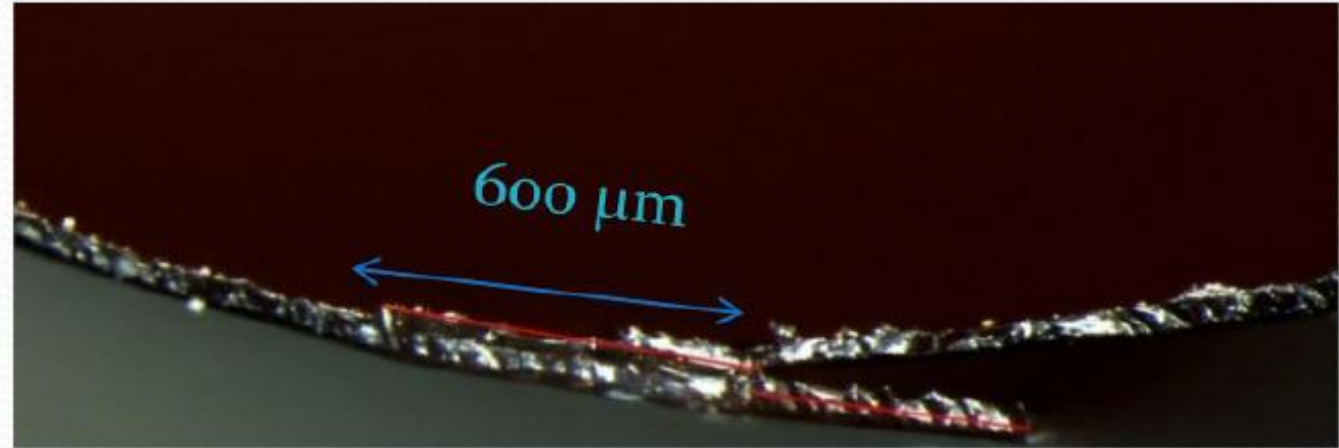
Ultrasonic welding of straws

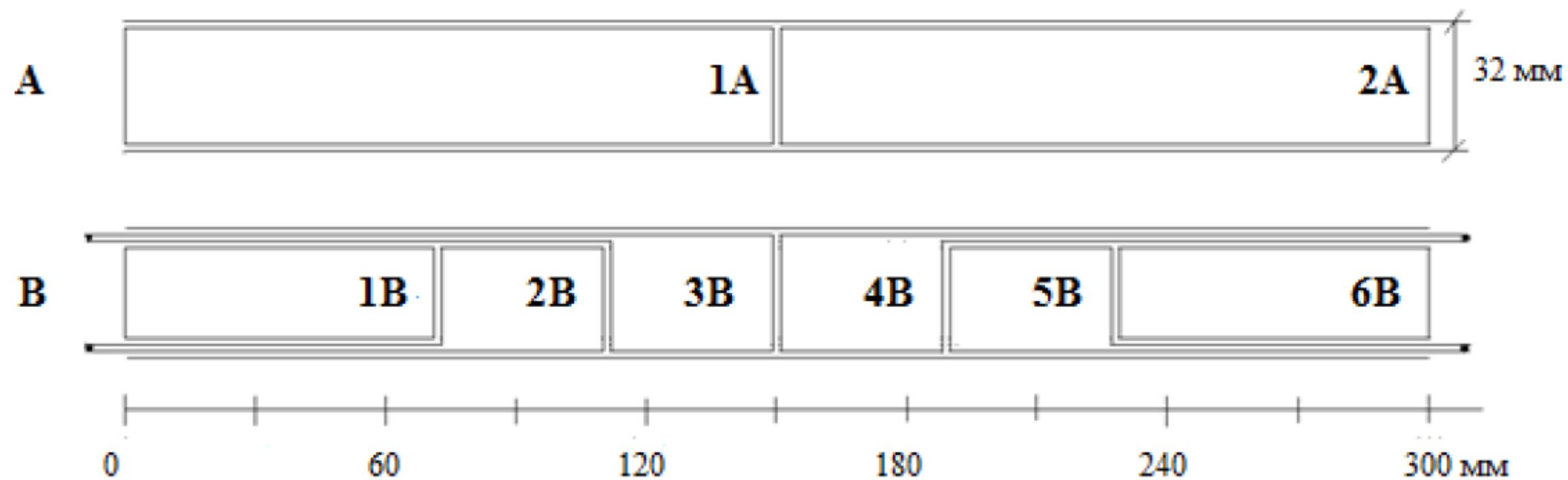
“Classical” straw winding



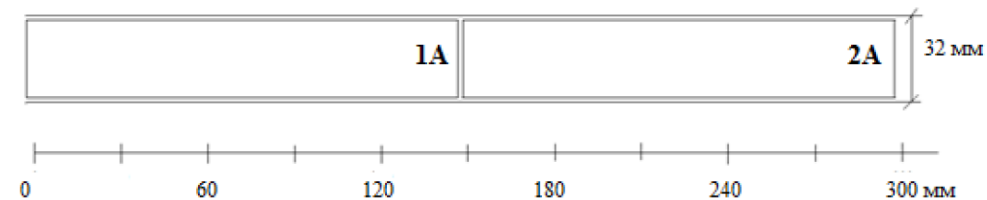
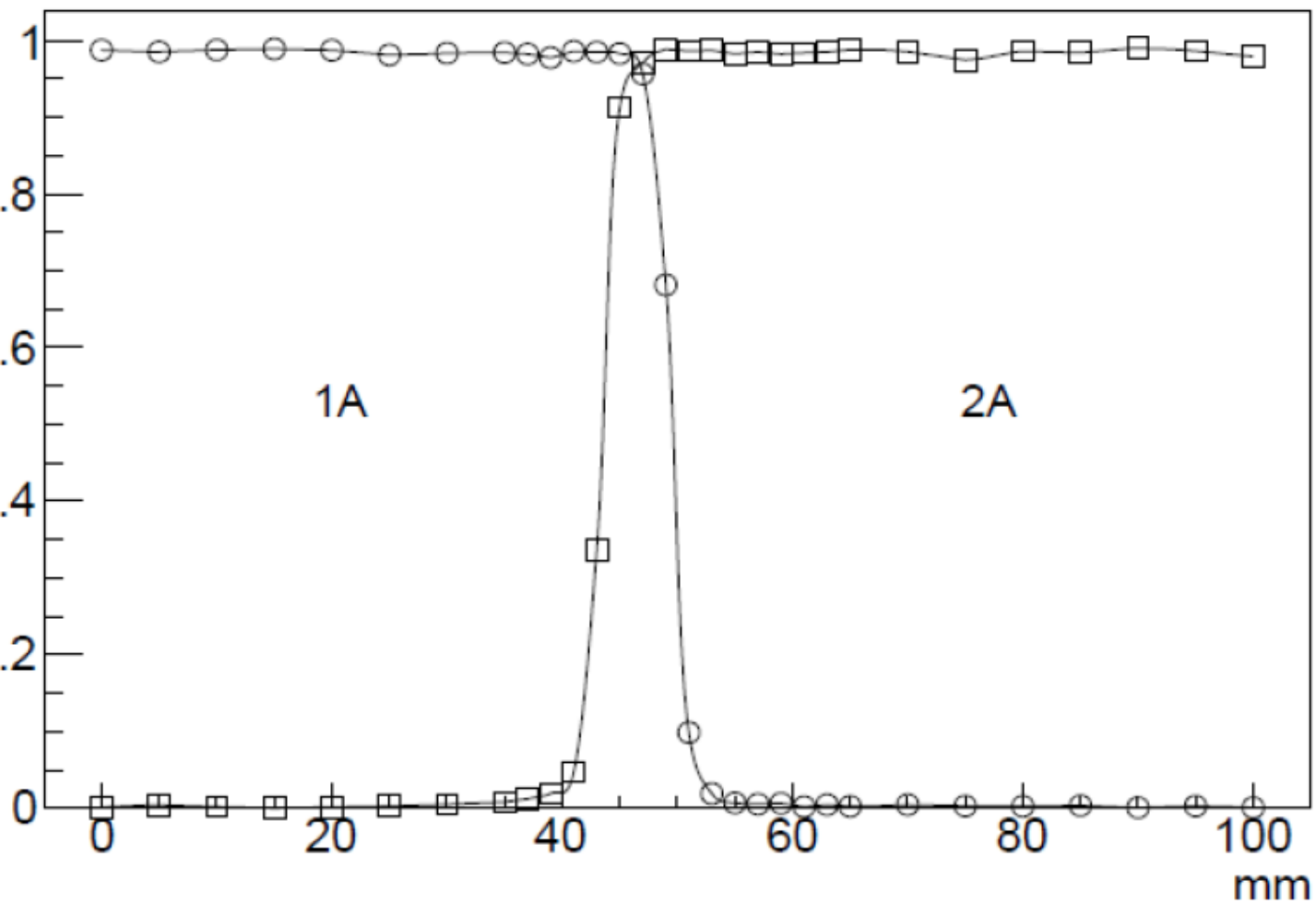
Microscope pictures of a straw cross-section for quality control of the weld

NA62 Ultrasonic welding
(Metalized PET)

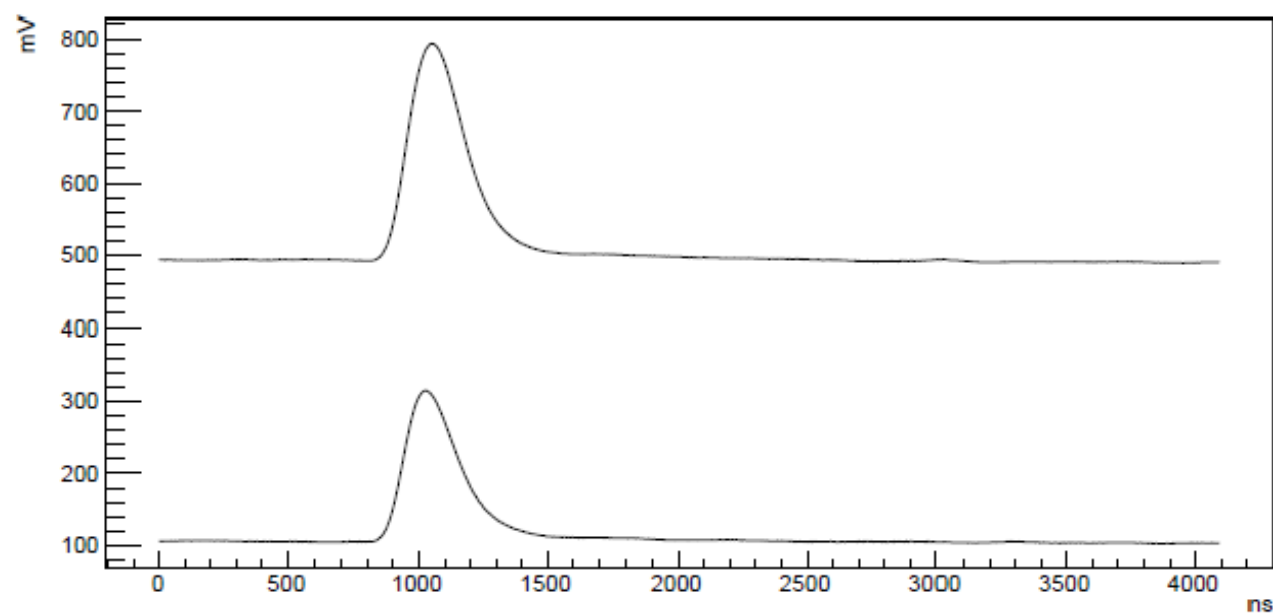




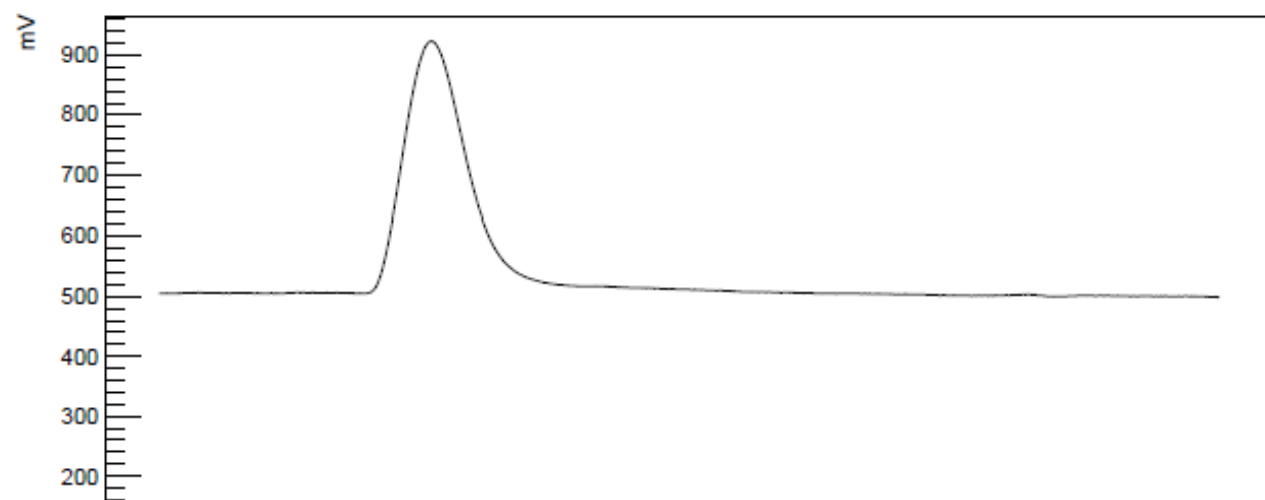
Straw cathode drawings with 2 (A) and 6 (B) segments.



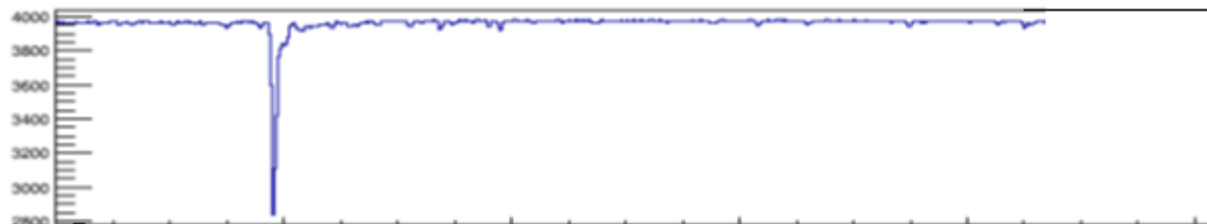
Efficiency versus the Z-coordinate along the straw axis for collimated the ^{90}Sr source. Discriminator threshold $\text{Th}=30$ mV. HV=3200 V.



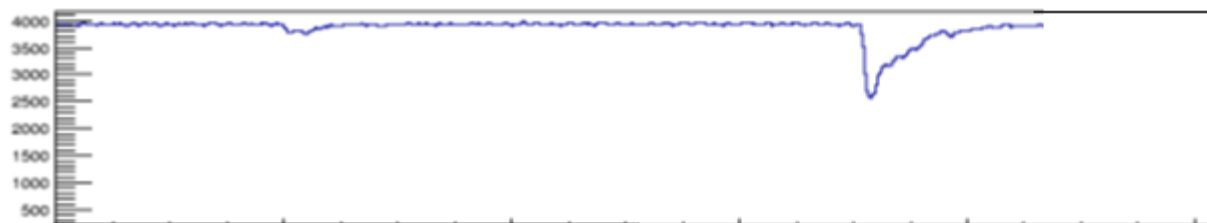
^{90}Sr radioactive source between 2 cathode segments.



^{90}Sr radioactive source on one of the cathode segments.



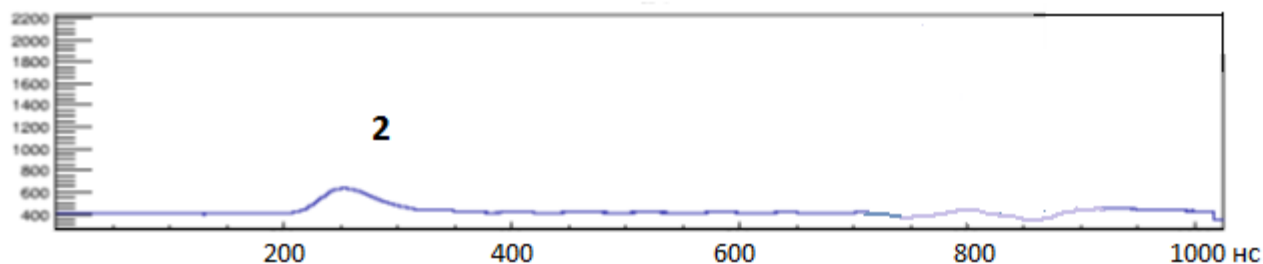
Триггер
2x2x15mm³ scint.
+SiPM



Анодный
сигнал



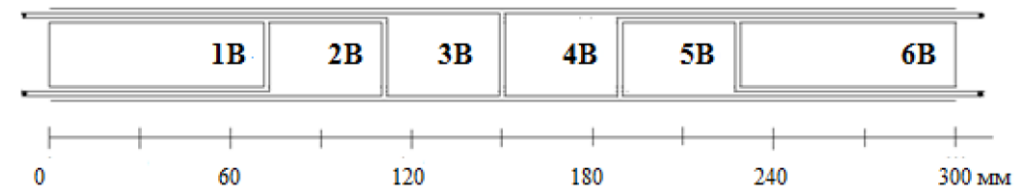
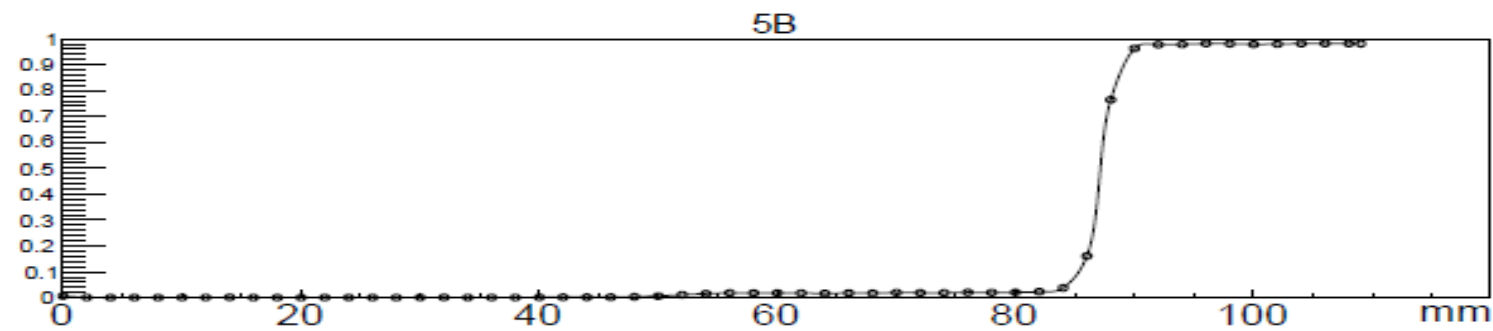
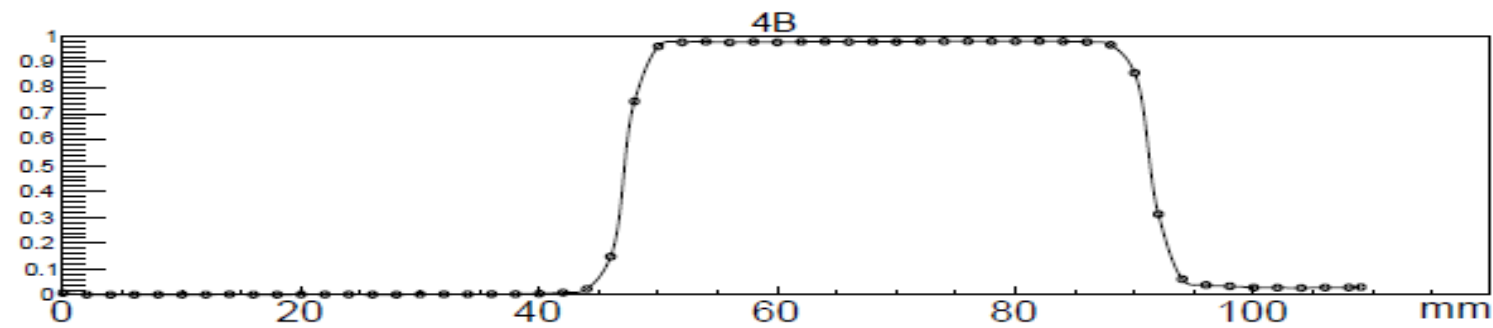
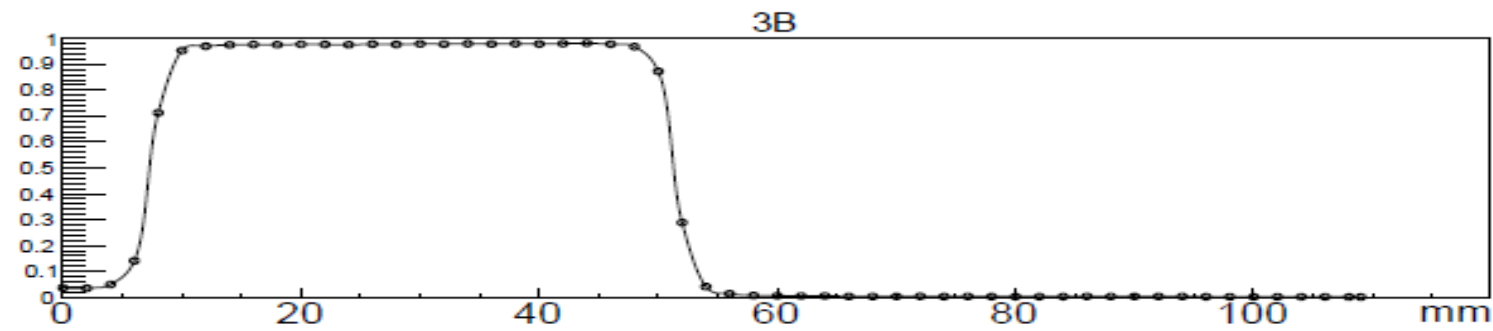
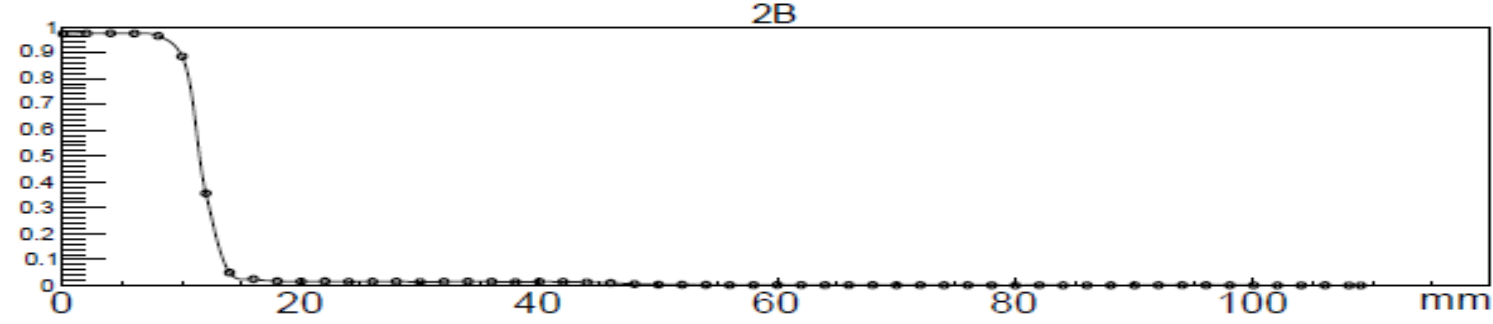
Катод 1А

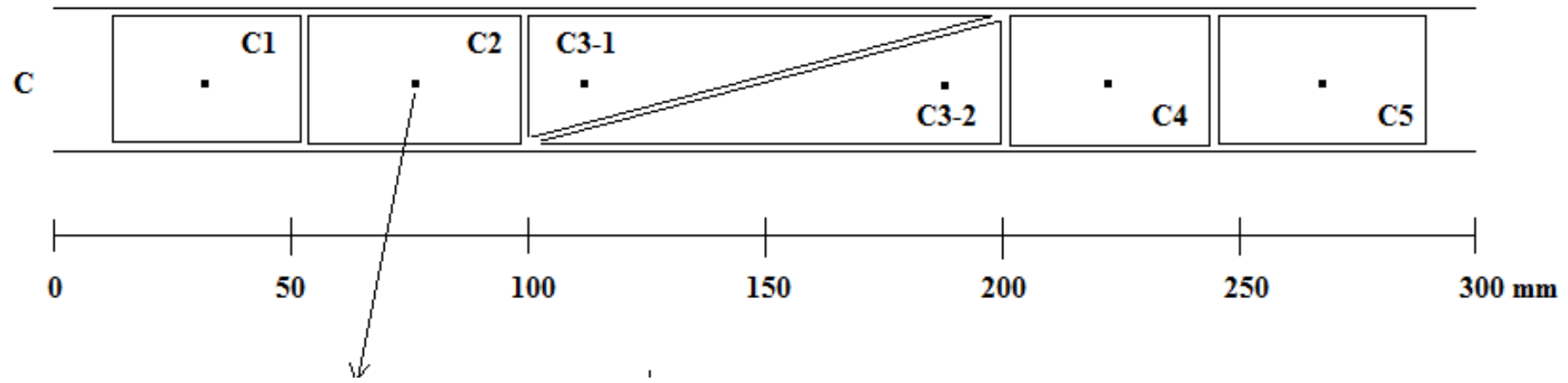


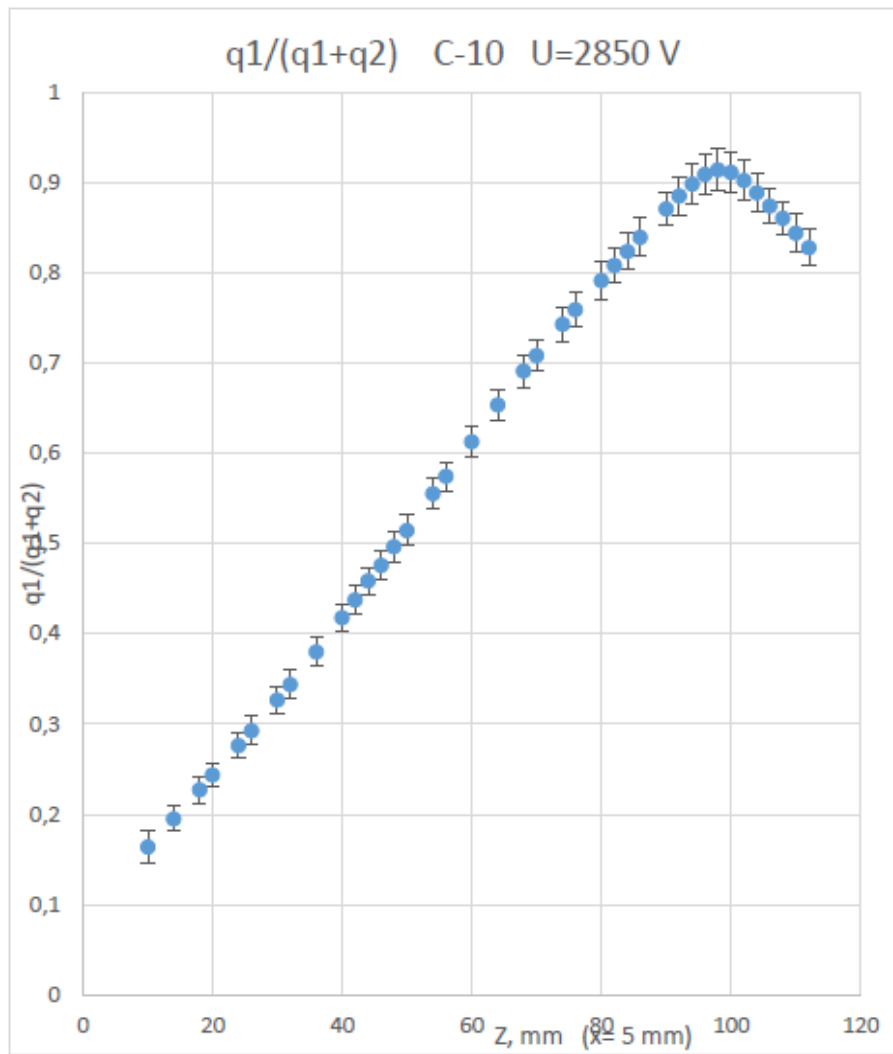
Катод 2А

Typical cathode signals (1, 2) for a tube with two filaments (Fig. 4a) in the separation of the cathode segments and random signal from the Cosmic (3) in one of the segments is the separation zone.

Efficiency versus the Z-coordinate along the straw axis for collimated the ^{90}Sr source

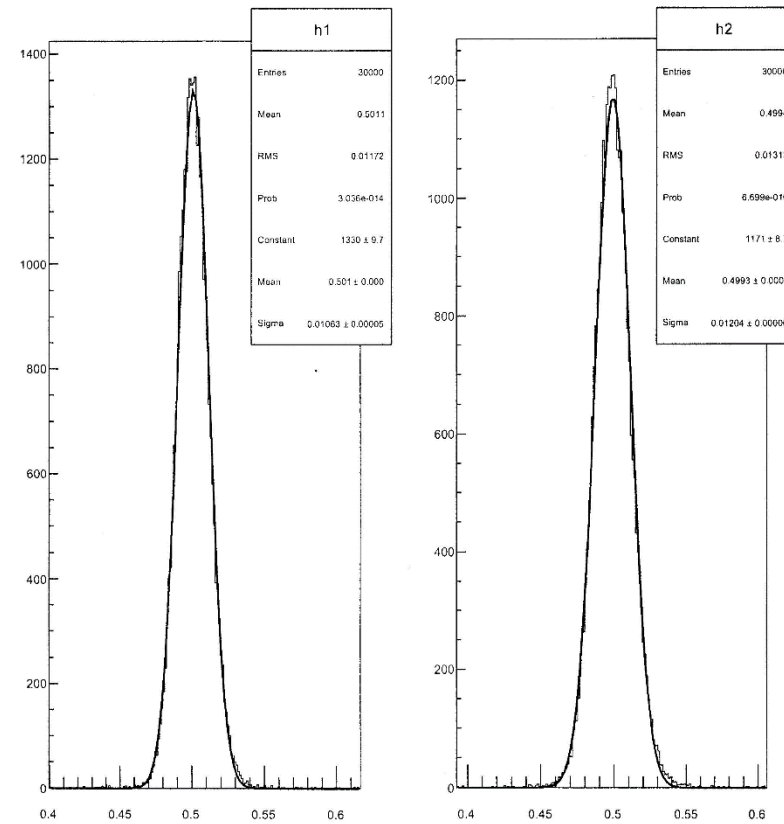


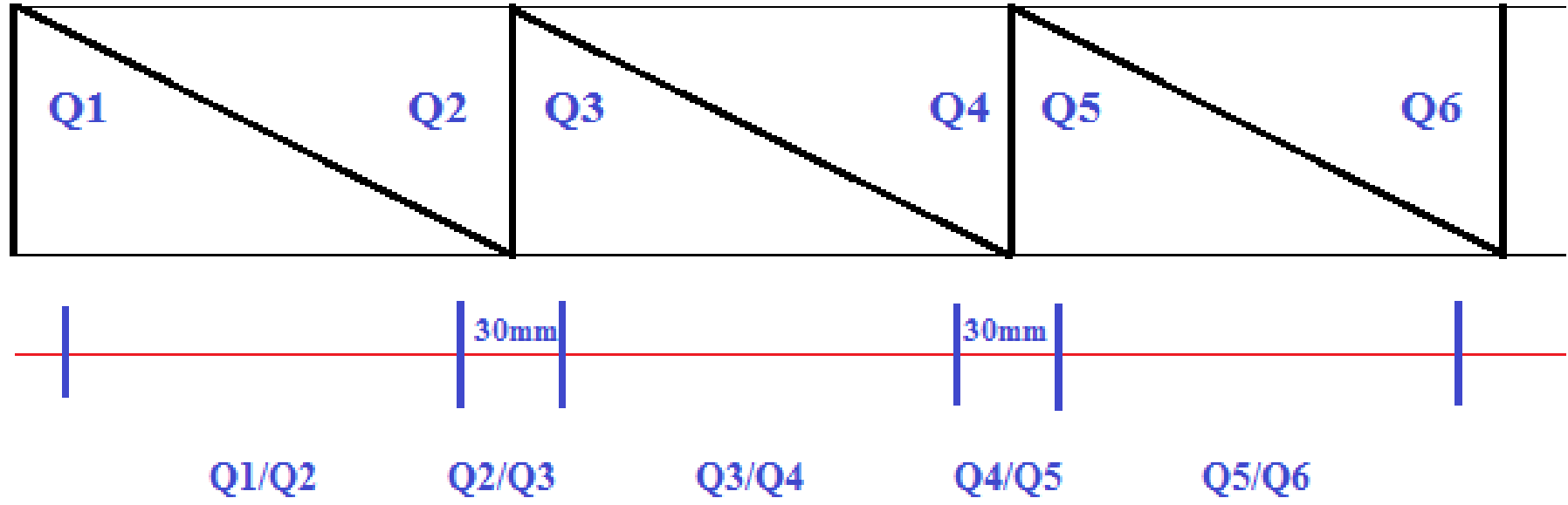


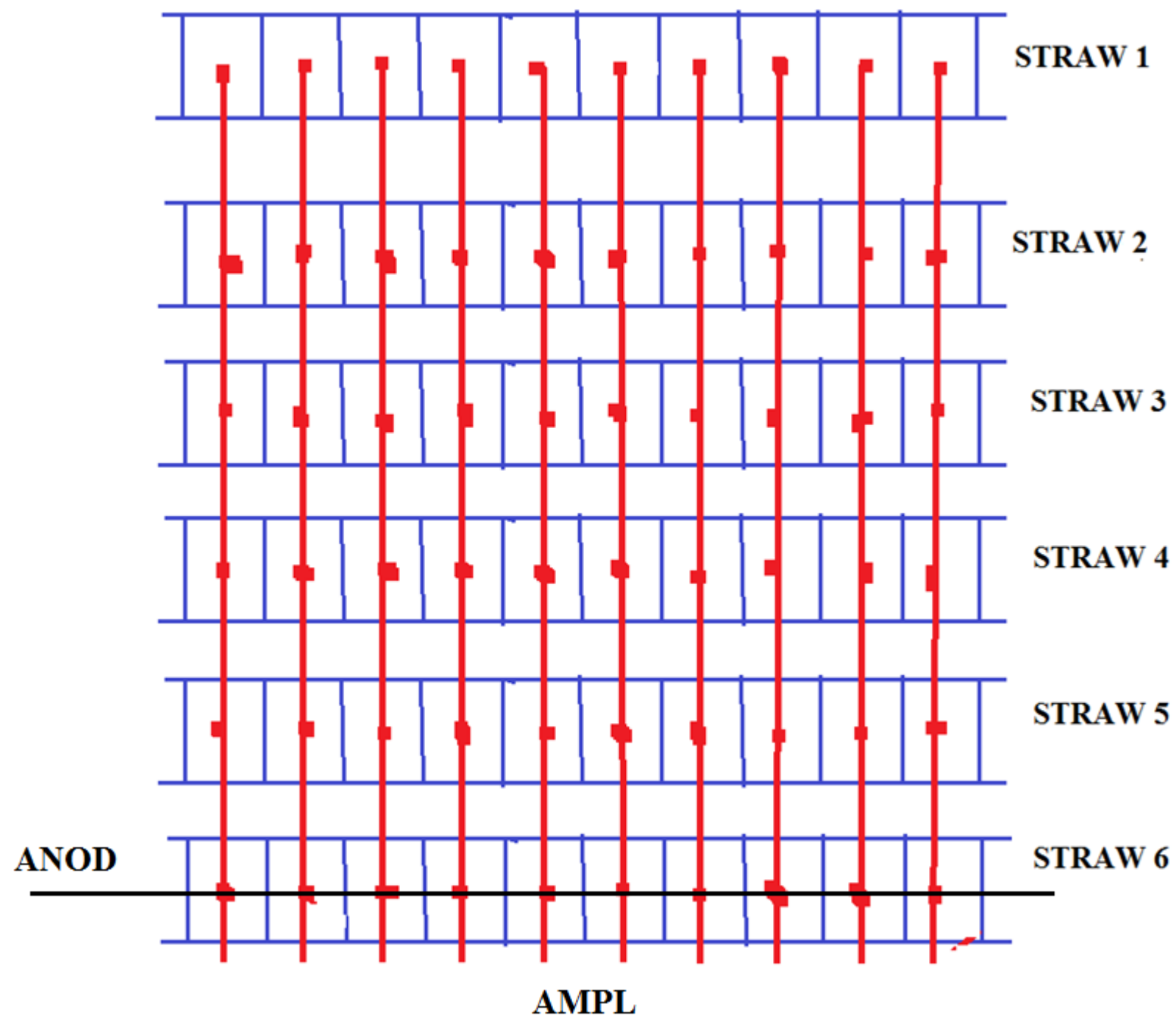


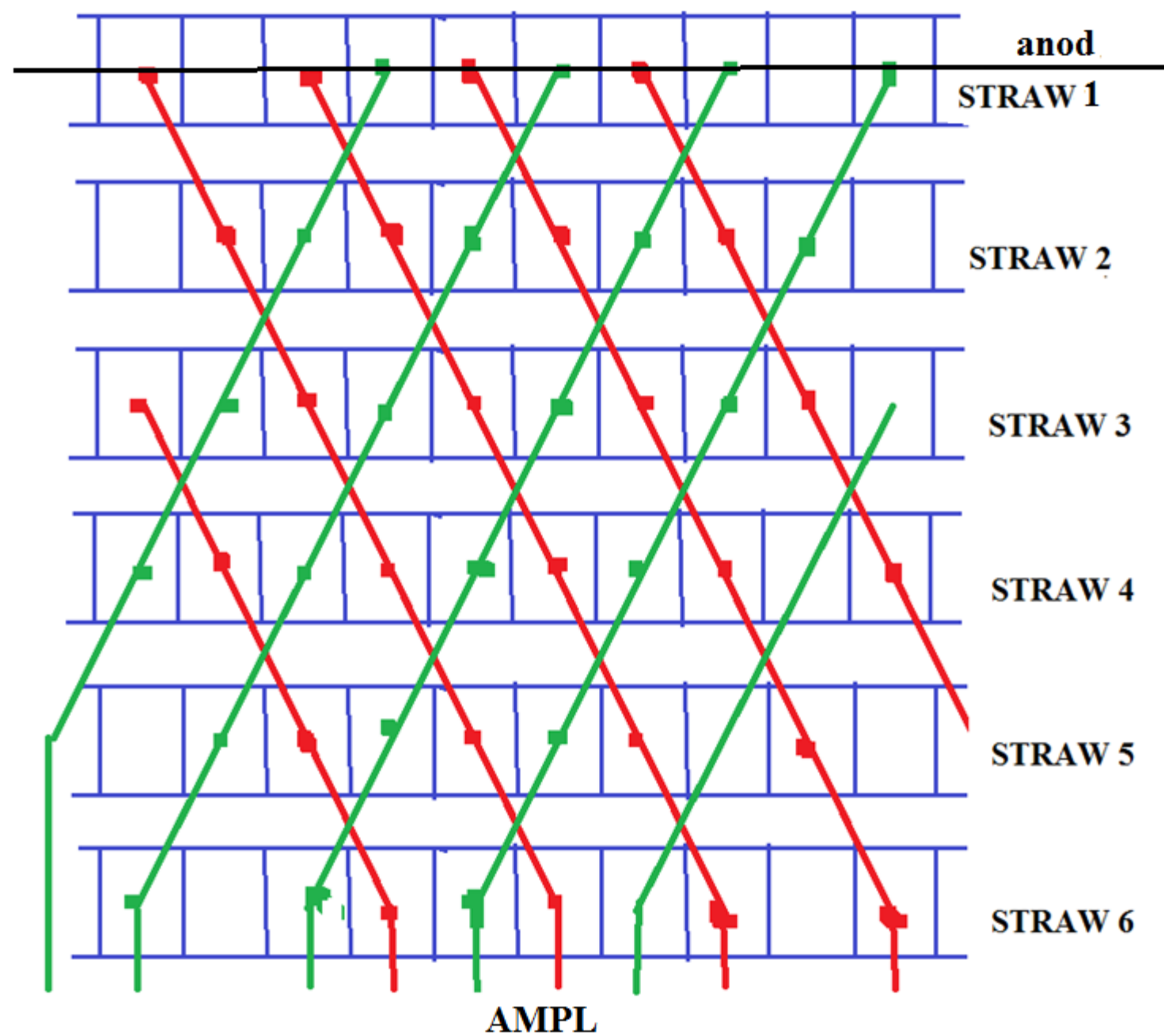
Q1/Q1 + Q2 dependence for the tube type C
(anode 20 micron)

In the central part of the cathode segment longitudinal coordinate determined by the relative signals from double wedge.
At the edge of the segment coordinate is determined by the relative signals induced on the adjacent segments.









5.2. The round shape chamber and vacuum protection.
Two coordinate round chamber design

