

55 MeV Special Purpose Race-Track Microtron Commissioning

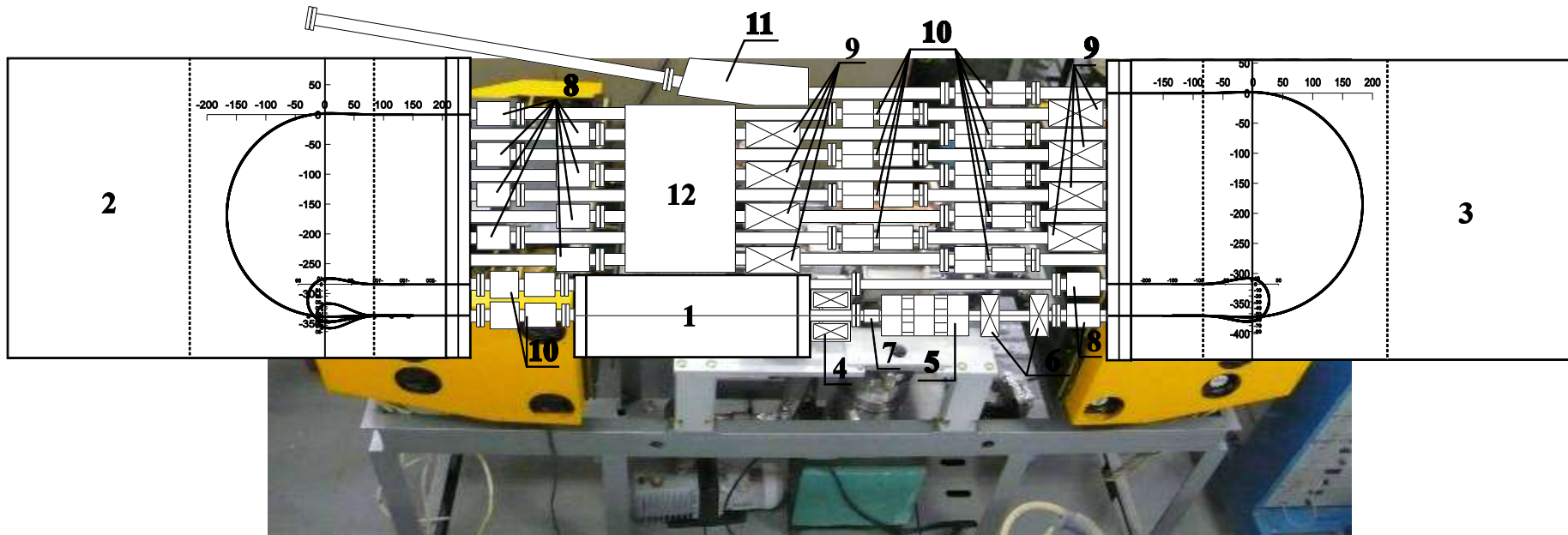
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55 MeV RTM

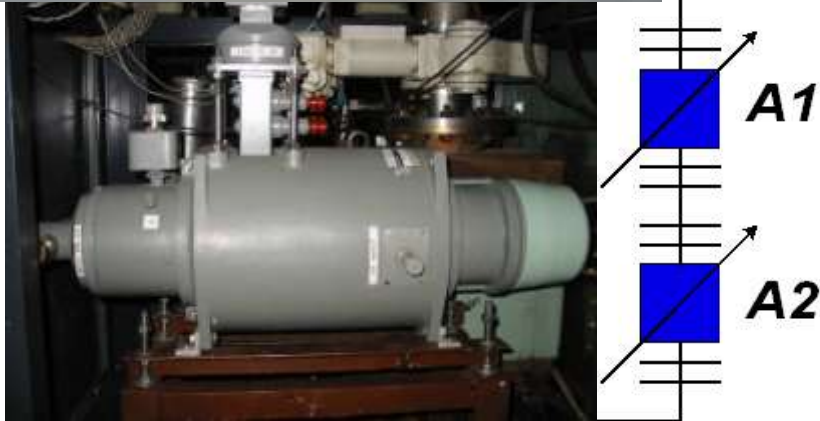
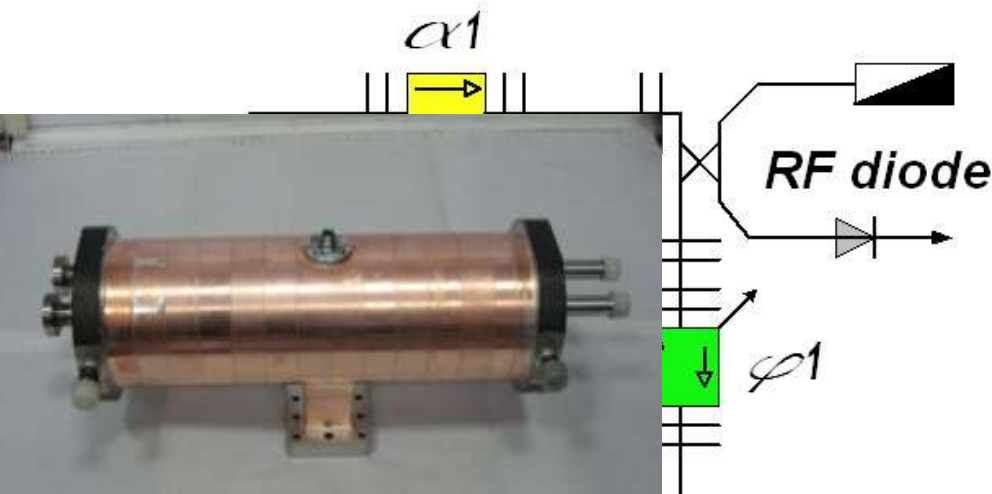


RTM schematic, (1) accelerating structure, (2) end magnet M1, (3) end magnet M2, (4) solenoidal lens, (5) injection magnet, (6) quadrupole lens, (7) small bellows, (8) welded bellows, (9) steering coils, (10) beam current monitors (BCM), (11) extraction magnet, (12) vacuum chamber.

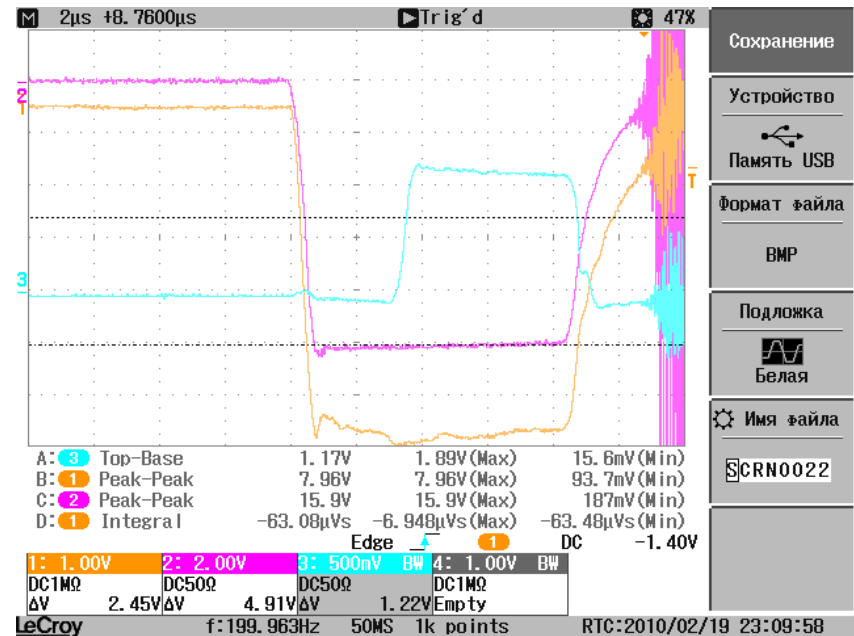
RTM parameters

Output energy	55 MeV
Output pulse current	10 mA
Repetition rate	5 – 50 Hz
Number of linac passages	11
Energy gain / turn	5 MeV
Current pulse length	5 μ s
Operating frequency	2856 MHz
End magnet field	1.0 T
Maximum RF power	2.5 MW
Orbit circumference increase / turn	1 λ

RF System

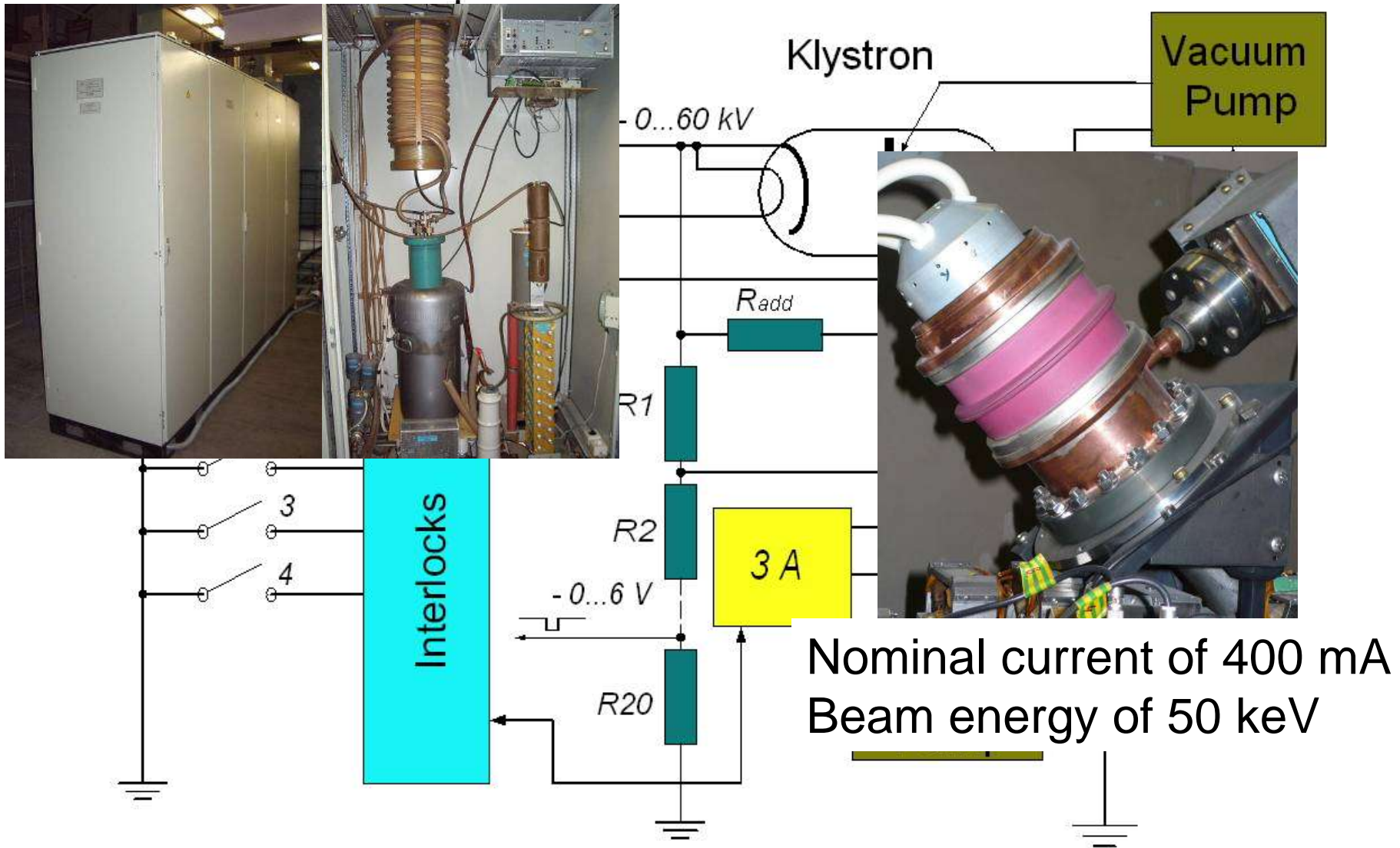


Klystron KIU-168

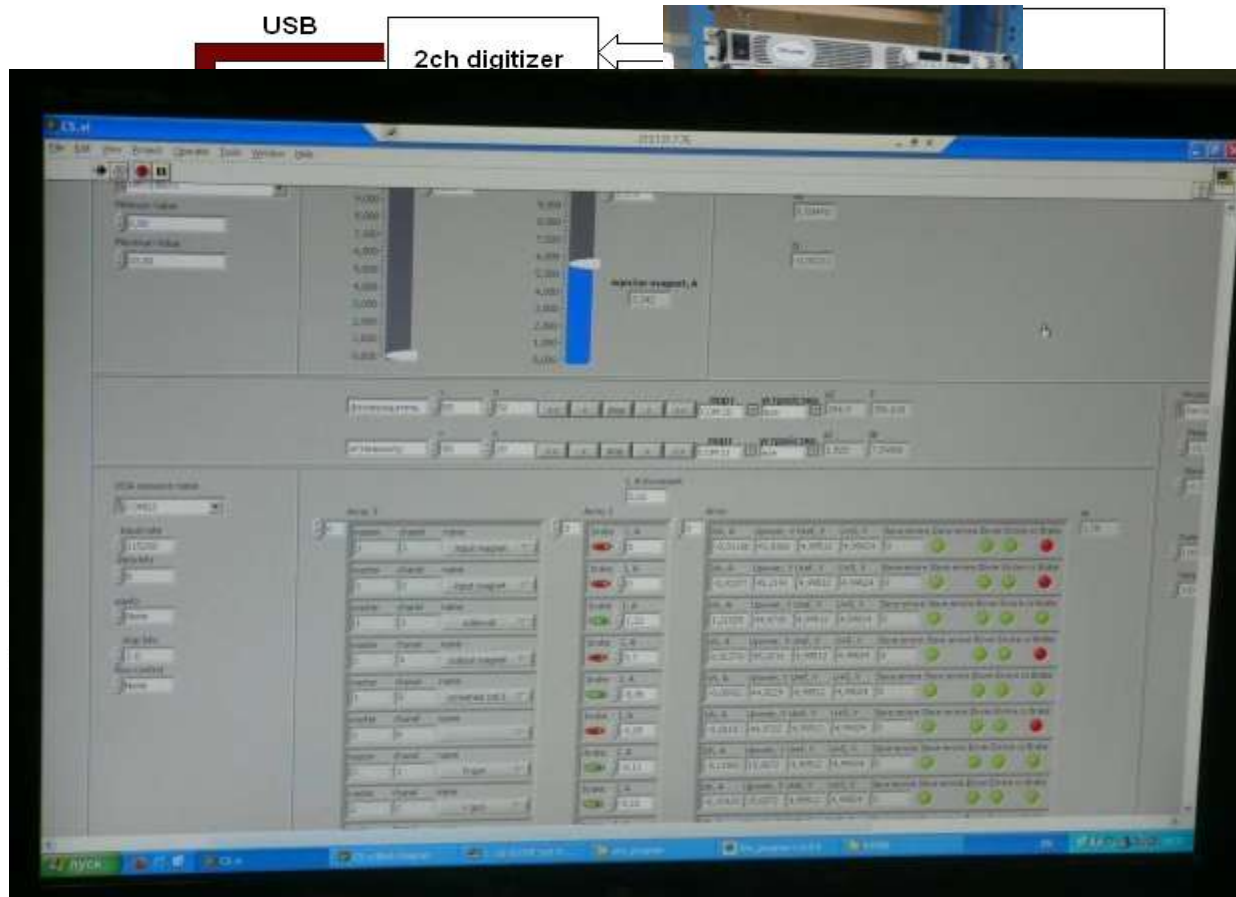


Klystron current (1), high voltage (2), and RF field (3) pulses.

High Voltage System



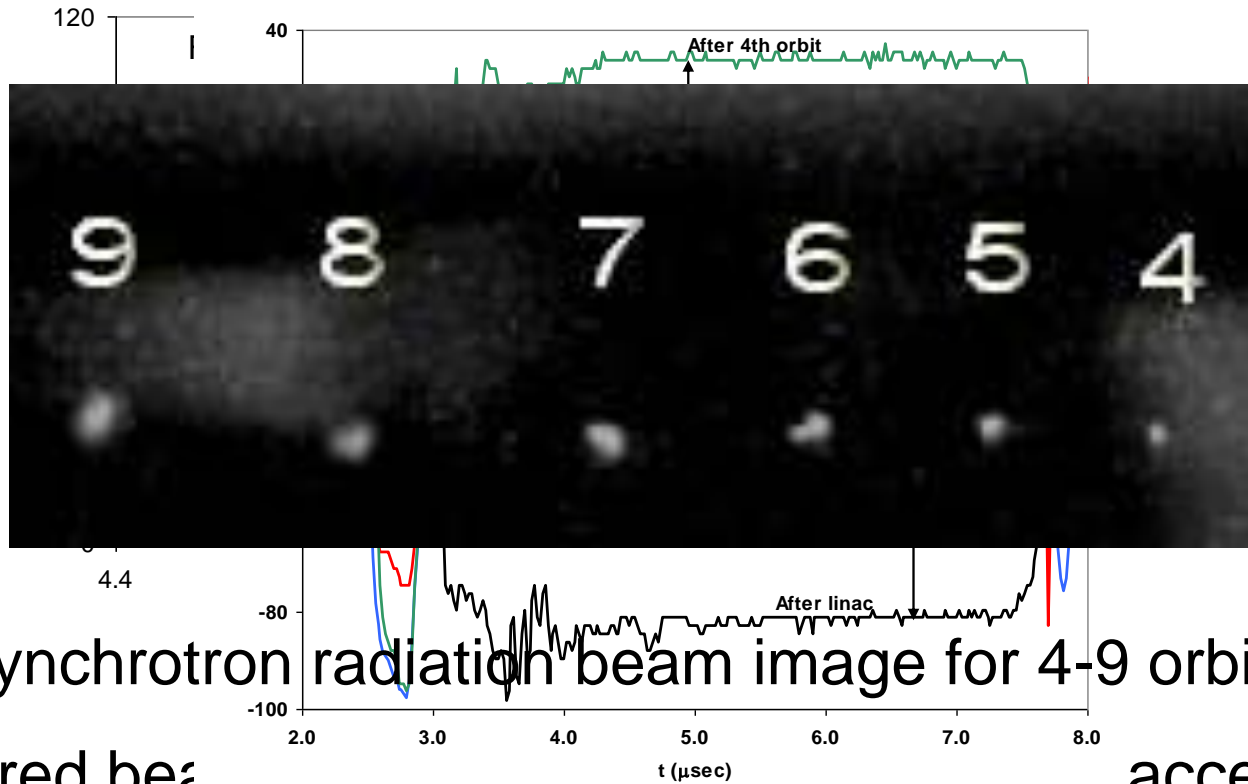
Control system&beam diagnostics



Control system panel at monitor in control room



RTM tuning



Synchrotron radiation beam image for 4-9 orbits

Measured beam acceleration compared with data from BCM installed at linac axis.

