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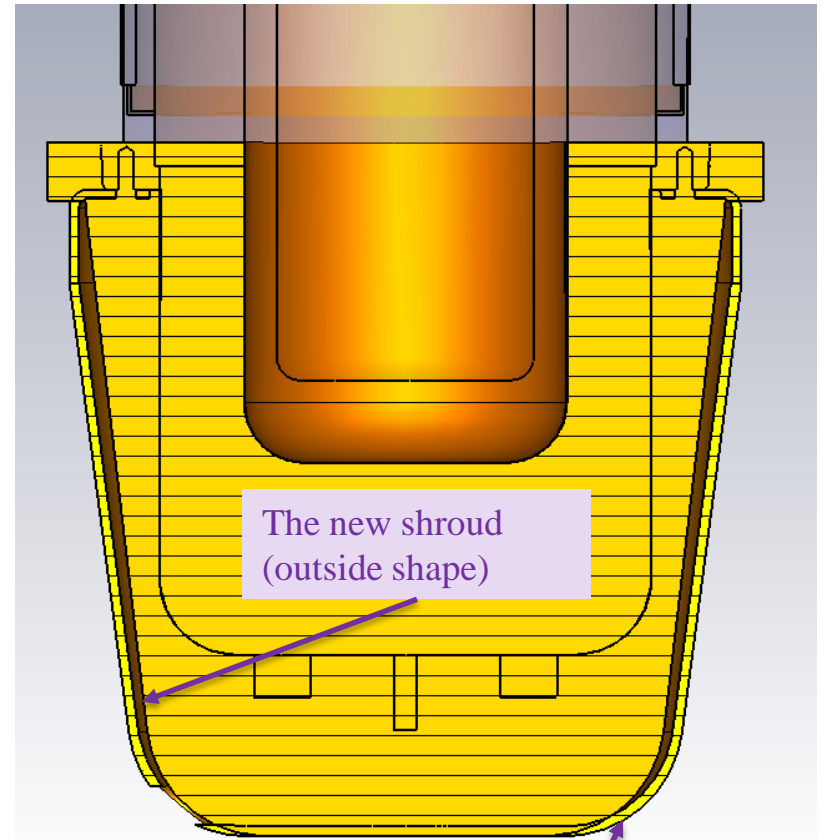
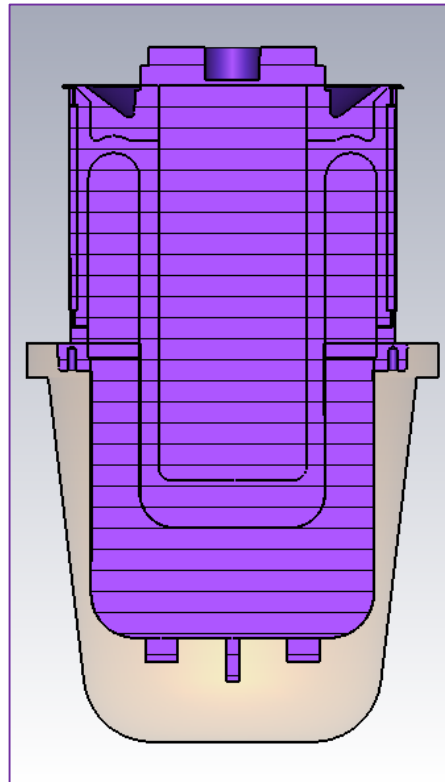
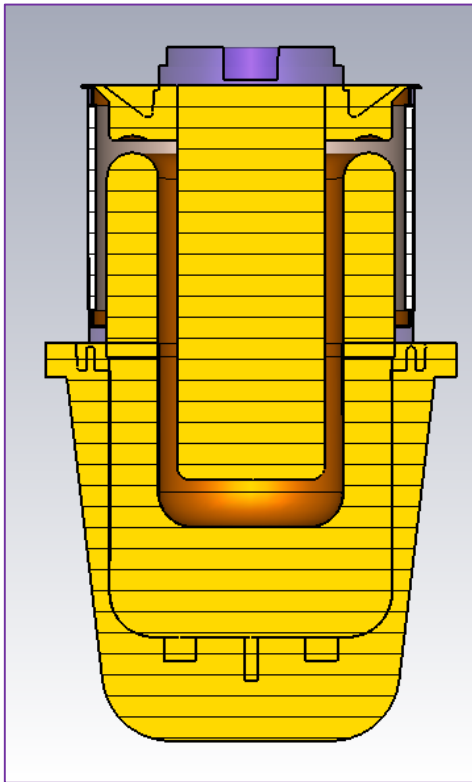
Measured internal dimensions of the tube

Gennady Romanov

2nd Harmonic cavity meeting

January 19, 2017

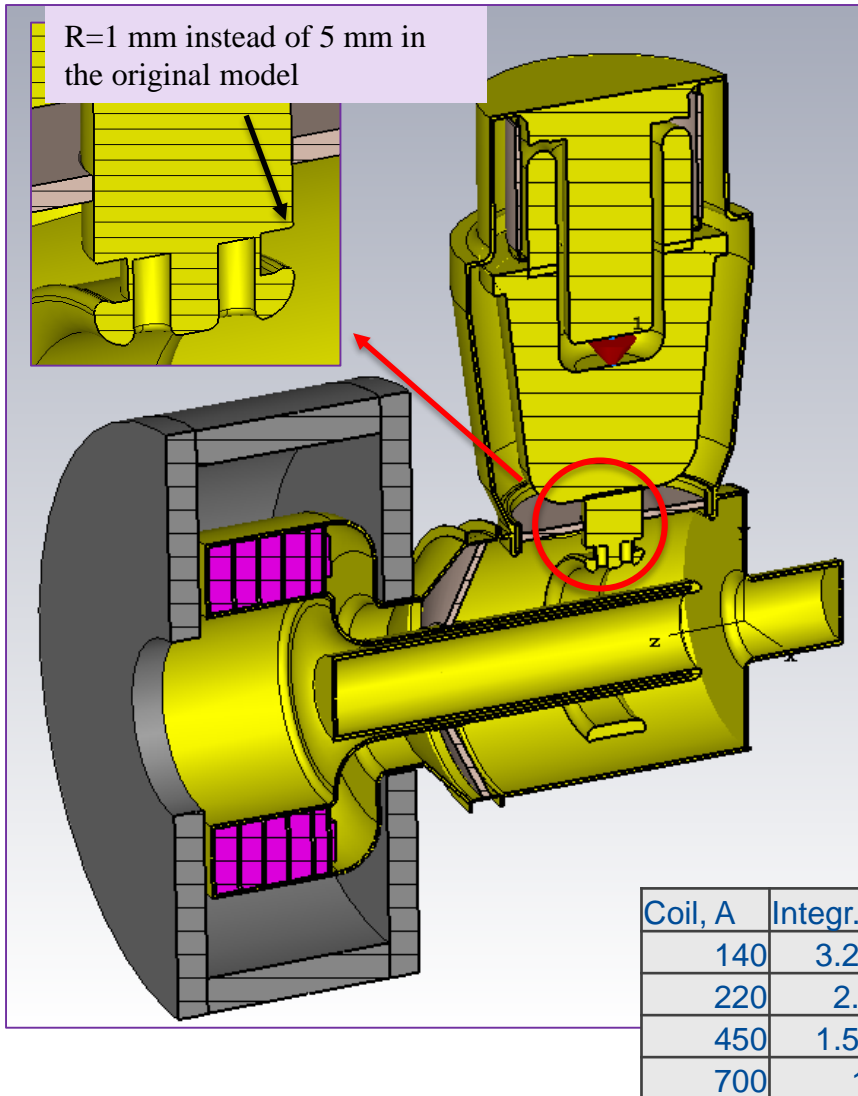
Updated tetrode and shroud



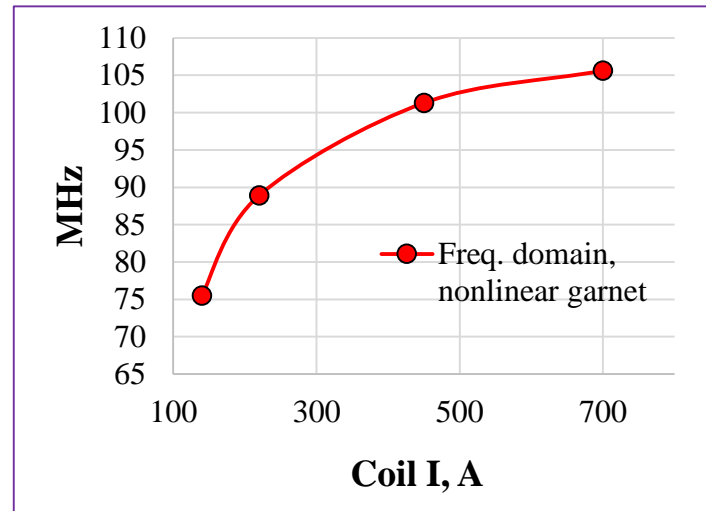
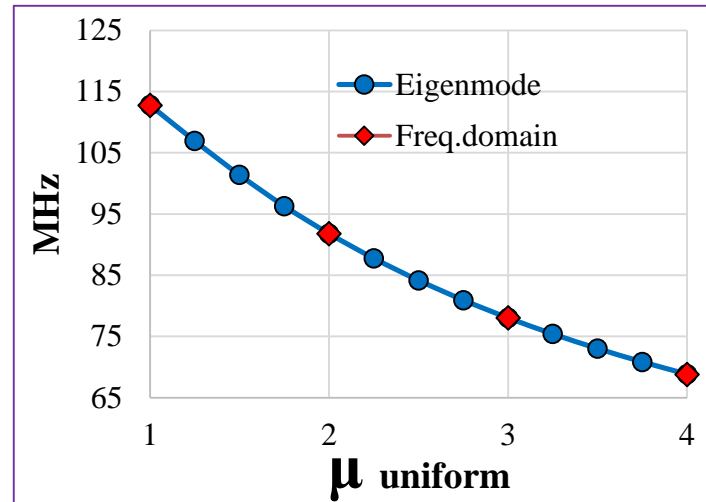
The tetrode update based on the measurements of real tubes (Robyn and Gennady). The biggest correction (length of the ceramic cylinder) was ≈ 5 mm. The outer shape of the tetrode from Kevin's model F10060372_12_22_16.stp is shown in violet.

Preliminary shroud from F10060372_12_22_16.stp

The CST model with new tetrode cavity



The corrected tetrode is longer and its position is higher, so the tetrode cavity is longer now by ≈ 20 mm.



Results

- Frequency of high end went down by another 0.6 MHz and total 1 MHz from the beginning of mechanical corrections.
- We are now at the edge of the required tuning range, no margin with given max coil current of 700 A and integral $\mu=1.3$.
- We can play with the cavity geometry after all mechanical features are in place.
- Possibly we can increase max coil current, though it is a weak tuning tool.