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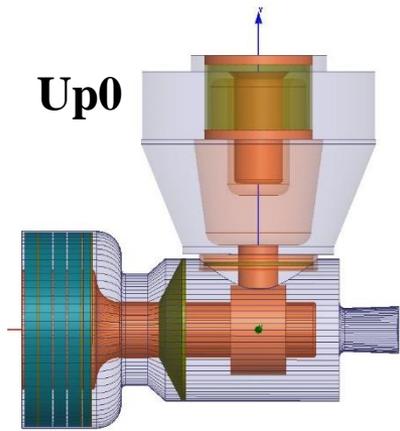
Pulling PA up.

Gennady Romanov

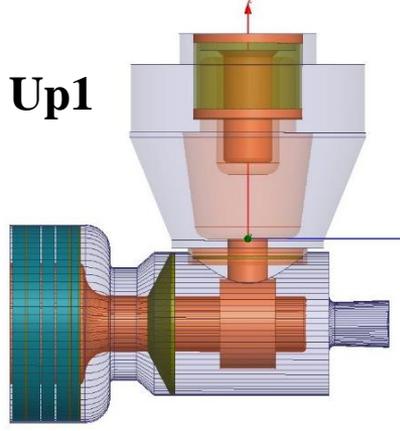
2nd Harmonic cavity meeting

May 24, 2016

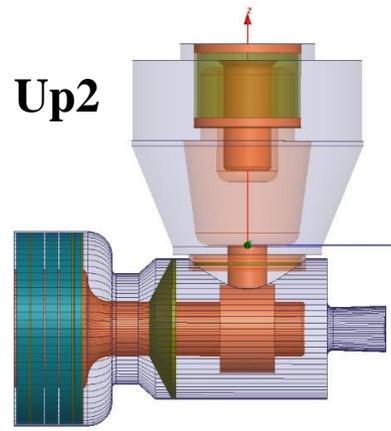
Ding's HFSS models



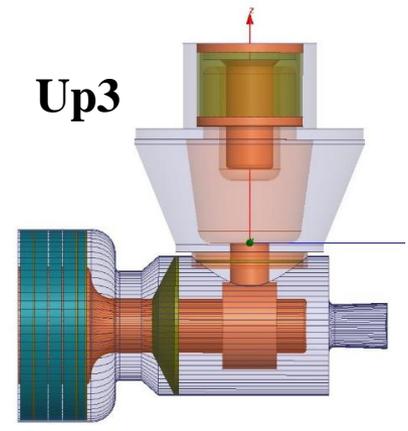
“Original” design (before pulling up PA tube)



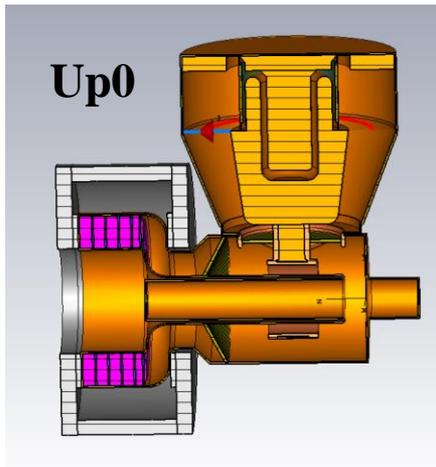
PA tube up by 1”,
ground plate 1” thicker



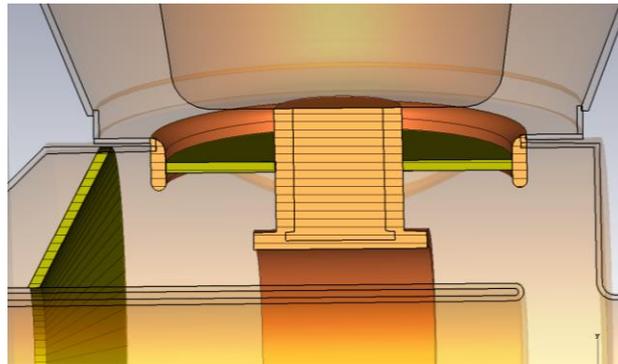
PA tube up by 1”,
outer tank 1” longer



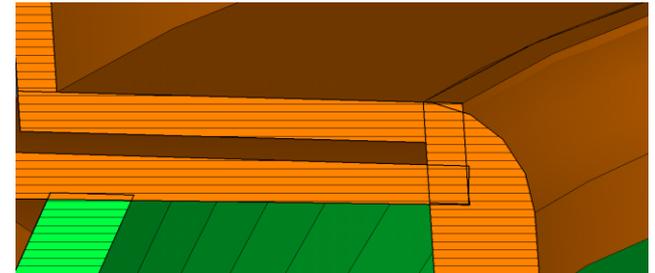
PA tube up by 1”,
outer tank 1” longer and smaller



Successful model transfer

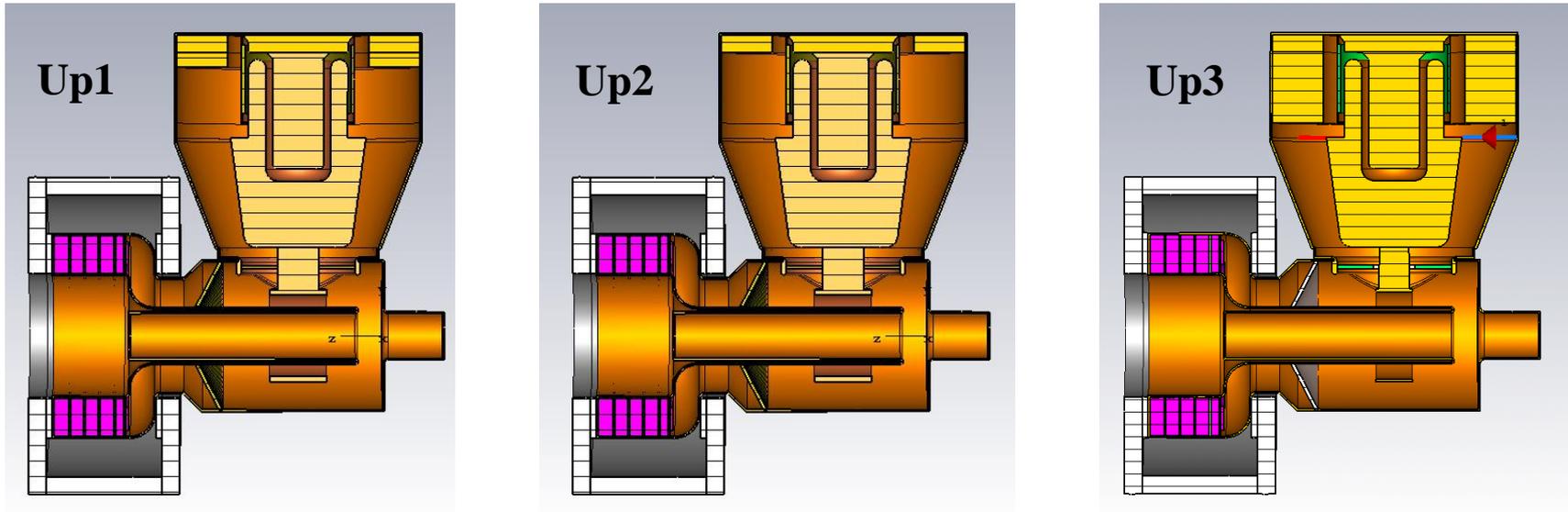


Big coupling cylinder has been replaced
with smaller one of current design



Material overlapping has been fixed,
sharp remnant corners removed

HFSS vs CST comparison



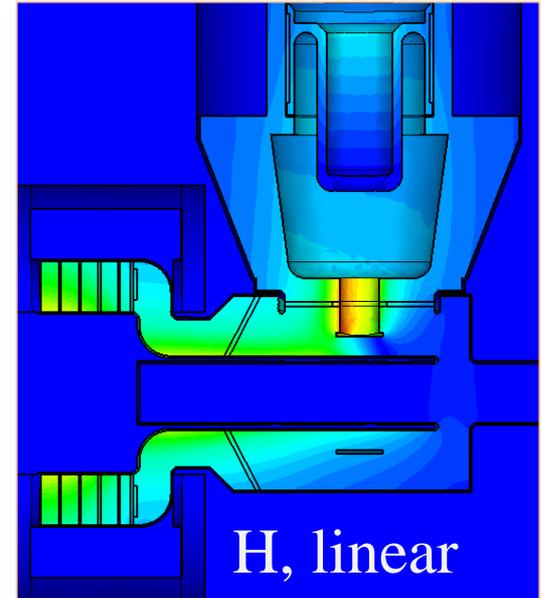
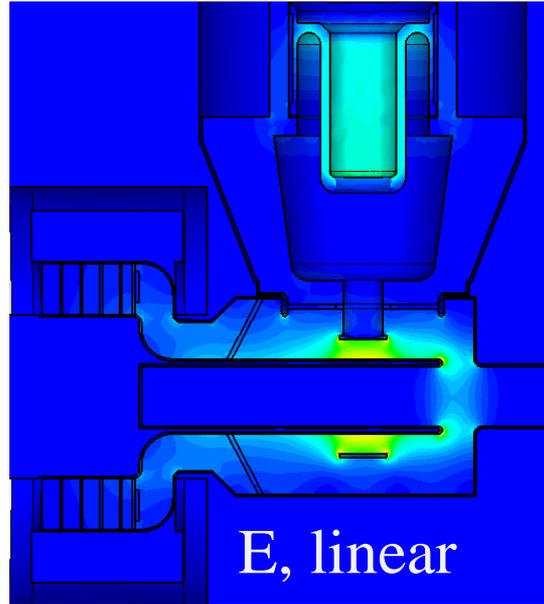
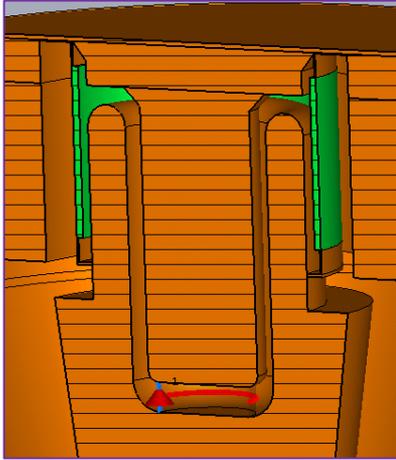
HFSS models: uniform garnet with $\mu = 1$, $\epsilon = ?$

CST FD: gyrotropic garnet, $I_{\text{coil}} = 2$ kA (average $\mu \approx 1.5$), garnet $\epsilon = 14.4$, alumina $\epsilon = 10$

CST EM: $\mu = 1$, garnet $\epsilon = 14.4$, alumina $\epsilon = 10$

	Up0	Up1	Up2	Up3
HFSS, f MHz, EM	95.05	94.4	94.01	95.66
CST, f MHz, FD/EM	104.6	103.96	103.59	105.46/108

New port location. Fields.



Remove sharp edges.
Useful additional effect -
frequency should go up.

