

2016-11-18 PFRC-2 Run Summary

prepared 2020-12-6 S.A. Cohen

RMF₀ @ **8 MHz**, silver-plated, air-gapped two-turn antennas, 28" RG-217 transmission lines, ground plane between antennas and Lexan vessel. RMF power system: SRI->AR100LM->2KD-> 8K-> 200 kW. "Safety" BN-covered HTS-FCs, installed Sept 2011.

Goals: Tank Pearson vs power, no plasma

- a) SRS: max 0.7
- b) $f_v \sim 8.015$ MHz, operate at 8.025 MHz
- c) $P_r/P_t \sim 20\%$;
- d) FM: no
- e) Duration: to 4 ms.
- f) Werlatone QH6213 (2-32 MHz) 90° splitter; 2 directional couplers, C2800, 50 dB
- g) Tank circuits (new) -> 2 antennas
- h) P_a
- i) Rotation direction: $\sim 90^\circ$ throughout discharge.
- j) antenna currents
- k) $1e-6$ T satellite gauge;
- l) opt: no plasma
- l) Roll-around power supply: $I = 0$ A
- m) Helmholtz coils: $4 \times 8 + 8 \times 4$
- n) Nozzle: 0 A
- o) Helicon: 0 W seed plasma
- p) μ -wave: $n_{e,max} \sim 0$

Results:

1. Antenna currents measured by Pearson inside tanks, N and T. Poor balance, ~ 1.48 . Max I during these tests ~ 40 A. $I_N > I_T$.

