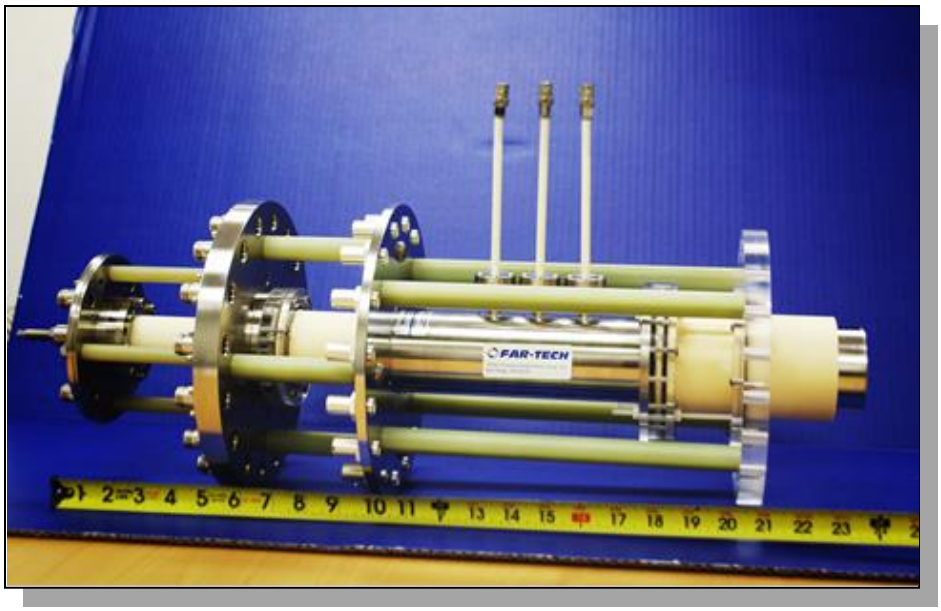
Nanoparticle Plasma Jet (NPPJ)

A nanoparticle plasma jet (NPPJ) production capability utilizing a solid-state pulsed power nanoparticle cartridge gas source coupled to a coaxial plasma gun.



Features:

High mass, nanoparticle gas production utilizing hot hydrogen derived from TiH_2 grains

High velocity, high mass nanoparticle jet production utilizing electromagnetic acceleration

- Characterized at HyperV Technologies Corporation's pulsed power test facility.
- Produced composite H, C_{60} gas jet with masses of hydrogen (~26 mg) and C_{60} (~210 mg)
- Demonstrated composite H, C, C_{60} plasma jet with momentums up to 0.6 g·km/s.
- Observed component velocities for hydrogen (13-26 km/s) and carbon (8-12 km/s).
- Estimated C_{60} mass component of produced plasma jets between 31 and 144 mg.

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