



Contribution ID: 1771 Contribution code: TUPR29

Type: **Poster Presentation**

Novel injection locked coaxial magnetrons

Tuesday, 21 May 2024 16:00 (2 hours)

To meet phase stability requirements, a high peak power coaxial magnetron-based RF system with >70% efficiency would normally be injection locked to an RF source by using a circulator to send the locking signal into the magnetron through the antenna. This added requirement of a high-power circulator pushes the inherently low coaxial magnetron's cost-per-watt to a high overall RF Power Source system cost-per-watt. For this project, the injected phase locking signal for the magnetron will use a novel input port that does not require a high-power circulator. The new input port uses the cathode stalk assembly to turn the filament-cathode into an antenna that couples to the resonant circuit of the magnetron. The coupling system between the cathode stalk, which runs at high voltage, and the RF input includes isolation for high voltage.

Footnotes

Funding Agency

Paper preparation format

Word

Region represented

North America

Primary author: POPOVIC, Milorad (Muons, Inc)

Co-authors: WESSEL, Jerry (Richardson Electronics Ltd); NEUBAUER, Michael (Muons, Inc); LENTZ, Ronald (Muons, Inc); BLASSICK, Thomas (Richardson Electronics Ltd); WYNN, Tony (Muons, Inc)

Presenter: POPOVIC, Milorad (Muons, Inc)

Session Classification: Tuesday Poster Session

Track Classification: MC7: Accelerator Technology and Sustainability: MC7.T08 RF Power Sources