Contribution ID: **1059** Type: **Poster**

2P17 - Pulsed RF Signal Irradiation Using a Low Voltage NLTL Coupled to a DRG Antenna*

Tuesday 25 June 2019 13:00 (1h 30m)

Nonlinear Transmission Lines (NLTLs) has been used for RF generation with great success. Possible applications of NLTLs as an RF generator include aerospace radars, telecommunications, battlefield communication disruption, etc. The RF pulses generated by the NLTLs can be radiated using antennas connected to the output of the lines. Also, there has been a paucity in the literature considering experimental results on the extraction and radiation of the RF signals from the NLTL output. This work reports the results obtained with a low voltage lumped capacitive NLTL in which oscillations of about 230 MHz were produced and radiated using a Double-Ridged Guide (DRG) antenna. The RF signal from the NLTL output was extracted using a high-pass filter decoupling circuit. The pulsed RF signal measured on a resistive load connected to the line output was evaluated in time and frequency domains as well as the signals obtained from the DRG transmitting and receiving antennas. A SPICE line model has been implemented showing a good agreement between the simulation and experimental results.
*Work supported by SOARD/AFOSR under contract no. FA9550-18-1-0111.

Authors: Dr ROSSI, Jose O. (National Institute for Space Research); Mr CARVALHO SILVA, Leandro (INPE); Mr REIS RAIMUNDI, Lucas (National Institute for Space Research); Dr GONCALVES LOPES RANGEL, Elizete (INPE); SCHAMILOGLU, Edl (University of New Mexico)

Presenters: Dr ROSSI, Jose O. (National Institute for Space Research); SCHAMILOGLU, Edl (University of New Mexico)

Session Classification: Poster - Microwave Generation and Plasma Interactions and Pulsed Power Switches and Components

Track Classification: 2.3 Slow-Wave Devices