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5P74 - 50 kV Resonant Full Bridge for Klystron Driving

Friday 28 June 2019 13:30 (1h 30m)

Eagle Harbor Technologies, Inc. is developing a new, solid-state klystron driver for use in fusion science applications. The next-generation klystron driver will take advantage of the high frequency solid-state switching capabilities developed by EHT with support from the DOE SBIR program. The resonant circuit allows for zero current switching, which reduces the stress on the solid-state switches. The high frequency nature will allow for the development of a more compact system, which can be placed closer to the klystrons. This system will be designed so that there is one driver per klystron, which will allow the system to scale as more klystrons are added and for experiments to continue in the event of a klystron fault. Additionally, this high-frequency klystron driver reduces the energy stored in the system that must be mitigated in the event of a klystron fault. We will present the Phase I project plan and results.

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