

# International Workshop on Breakdown Science and High Gradient Technology (HG2021)

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## Development of Compact, Low-Voltage RF Power System Prototypes at SLAC

*Wednesday, 21 April 2021 14:00 (30 minutes)*

The RF power chain – including modulators and RF amplifiers themselves – is a major driver of capital and operational costs for any next-generation accelerator facility. For the current state of the art, RF power costs are likely prohibitive, and an order of magnitude improvement (in terms of \$/peak kW) is needed. To this end, SLAC is developing a widely scalable RF source and modulator topology suitable for a range of commercial and scientific applications, to develop a diverse customer base and eventually leverage mass production of these devices to reduce costs. This has yielded multiple R&D programs in compact, integrated linac systems based on a modular, low voltage klystron topology. In this presentation, updates will be provided on SLAC's prototype RF sources for these programs, and future research directions in this area will be discussed.

**Presenter:** WEATHERFORD, Brandon

**Session Classification:** Session 7