

Abstract Submitted  
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**Progress on an ITER ECH Transmission system development and testing**<sup>1</sup> TIM BIGELOW, GREG HANSON, DAVE RASMUSSEN, ALAN BARKER, CARL DUKES, STEPHEN KILLOUGH, BRIAN PETERS, ROBIN RUMBOLT, CHUCK SCHAICH, ROBERTO SANABRIA, KAREN MCELEHANEY, JOHN WHITE, STEPHEN ALLISON, ORNL/UT-Battelle, MIT PLASMA SCIENCE CENTER COLLABORATION, ITER ORGANIZATION COLLABORATION, GENERAL ATOMICS COLLABORATION — Progress on further development of the ITER ECH Transmission system design and testing of waveguide components will be presented. Work on the preliminary design of the system configuration is proceeding based on the conceptual design from the ITER Organization. Requirements for precision of waveguide supports and components are being analyzed and thermal and mechanical modeling of prototype components is being performed. Several prototype components have been procured from industry and some have been tested to nearly 1 MW at 170 GHz for long pulses at JAEA in Japan. A high power test stand is being developed at ORNL to provide component, system, and instrumentation tests at 1 MW cw or higher power conditions. The high voltage power supply has been tested and 140 GHz and 170 GHz gyrotrons are expected to be operational in the near future.

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Tim Bigelow  
ORNL/UT-Battelle

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