Numerous techniques exist for measuring temperature using passive devices such as SAW filters. However, SAW filters have a significant limitation regarding high temperature environments exceeding 1000ºC. There are several applications for a high temperature sensor in this range, most notably heat flux or temperature in turbine engines. For these environments, an alternative to SAW filters is to use a passive resonator. The resonate frequency will vary depending on the environment temperature. Understanding how the frequency changes with temperature will allow us to determine the environmental temperature. In order for this approach to work, it is necessary to induce resonance in the device and measure the resonance frequency. However, the extreme high temperature makes wired connections impractical, therefore wireless interrogation is necessary. To be practical a system of wireless interrogation of up to 20cm is desired.

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The public is welcome to attend.