

## ***A tungsten heater up to 1700K for BX90 Diamond Anvil cells***

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**Resistive** heating in diamond anvil cells (DAC) has played an important role in high-pressure geophysics and materials science. Internal heaters and graphite heaters have been reported to achieve temperatures of over 1300 K, but their setup and/or sample loading are time-consuming. Metal wire ring heaters are very convenient, but seldom are deployed above ~1200 K. Here, a new tungsten wire ring heater for BX90 cells is being presented. It reaches temperatures up to 1700 K when protected with Ar + 2% H<sub>2</sub>. The temperature is determined via a S-type thermocouple. A DAC holder can retain the pressure at high temperature without pressure relaxation occurring. The heater is a modular and plug-play design, and it is user-friendly for high-pressure, high temperature experiments.