Abstract Submitted
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Instrumentation and Implementation of High Temperature Electrical Contact Resistivity JOSE PUENTE, None — High Temperature Electrical Contact resistivity is a method by which current is applied to a thermocouple sample, and a tungsten probe is dragged across the sample to measure resistance variations across it. This method is very destructive, and often results on damaging the sample. Dragging a probe across a thermocouple sample under high temperature, and pressure creates micro cracks in the material that compromises the structure integrity of the sample. Using this method it is difficult to accurately estimate the material distribution over the sample due to the low resolution of the system. A more accurate, and nondestructive method needs to be develop to improve the efficiency of the testing method. We will achieve a higher resolution by adding a servo motor that can accurately probe the sample using an up, and down motion. The probe will be lifted, and move horizontally every ten microns to avoid dragging, and to increase the resolution of the testing. We will develop and automate the new testing using mechanical fixtures, high resolution servo motors, and LabVIEW software.

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None

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