



SOCIETY OF PHYSICS STUDENTS (SPS)

presents

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AMIDAC
RAIL 

DEMONSTRATION ON EXOTHERMIC REACTIONS IN WELDING

Exothermic (or thermite) welding is a process used to join two electrically conducting parts using a copper alloy. The copper alloy is superheated during an exothermic reaction of aluminum powder and cupric oxide: $3\text{CuO} + 2\text{Al} \rightarrow 3\text{Cu} + \text{Al}_2\text{O}_3 + \text{Heat}$. This process is used by railway companies, such as today's guests from AMIDAC Rail Corporation, as a mechanically strong way to join rails together. AMIDAC is famous for its remote welding technology which improves the safety of the welding engineer by placing them a farther distance from the reaction.

AMIDAC's demonstration will be an indoors-friendly version of this reaction with LEDs simulating the ignition process.

All of the real components and products will also be available; packets of weld metal, graphite molds, the electric ignition system, full welded products, cross-sectional cuts of welded metal will all be on display. In addition, our guests will present the utility, grounding, and high-speed-train applications of this technology.

OCTOBER 25

Where: SR 151

When: 12:00 pm

For more information contact us  sps.csuohio@gmail.com