

# ON PHASE TRANSITIONS IN DIFFERENT METALS

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Results of underwater electrical explosion of single wires made from Cu, Al, T, Mo and Ta are presented and analyzed. Experimental research was carried out using microsecond timescale generators having 33/180 kA, 33/45 kV and 1200 ns of current amplitude, resistive voltage and rise-time respectively. The discharge current was measured by a current viewing resistor or Rogowski coil and the resistive voltage was calculated from the measured voltage by a voltage divider accounting for inductive voltage. These data coupled with data from Optronis Optoscope SC-10 streak camera and 1D MHD simulation was used to study the phase transitions in different metals at extreme conditions, i.e. the moment when a transition occurs, life-time of a phase and energy density in the wire at the moment of transition.