Direct measurement confirming Generation of Excess Heat

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It is now a reasonably well accepted and demonstrated concept that excess Heat/Energy through Low Energy Nuclear Reactions (LENR) or Cold Fusion could be the future green energy in many applications [1] [2]. Several groups across the globe is working to realise and capture the excess heat generated [3] [4] [5]. Some groups have used air calorimeter [3] and some other used water calorimeter [6]. However always these were questioned by third parties in the same field for quantity and consistency as m,easured using air flow velocities.
Both of these methods have limitations with the instrumentation and sensors. The group at CER has devised a different method to prove quantity of excess heat with Ni-Pd-D_2 system.

As calorimetric method of estimation of generation of excess energy is always under question , the group at CER has carried out a direct measurement using only the temperature of the reactor surface when the reactor is kept inside a thermally insulated non metallic box . The temperatures of the core of the reactor, surface of the reactor and inner surface of the insulator box were also recorded.

In the beginning a calibration experiment is carried out without any fuel in the reactor and subsequently the active experiment with the same set up but with Pd added as fuel inside the reactor. The reactor surface temperature for the power input given to the heater is also estimated mathematically. The measured surface temperature for calibration matched exactly with the mathematically derived value of temperature.
The experiment with active materials inside the reactor showed higher surface temperature than the value measured in the calibration experiment. Higher temperature in experiment with active material is clear indication of generation of excess heat in the reactor. Mathematical correlation has again been carried out accounting for the excess heat and match with measured values confirmed.

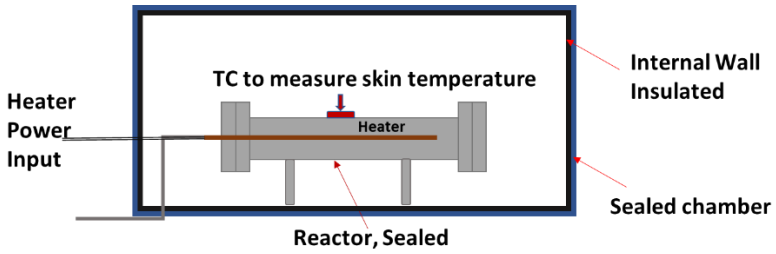

Figure 1: Adiabatic isolation of the reactor

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