Associazione Open Power

Convegno:

Nuove trasformazioni della materia

LA VIA ITALIANA ALLA FUTURA ENERGIA

Roma, 30 giugno 2017 ore 9:30 - 19
Casa dell'Aviatore - via dell'Università, 20
Sala "Francesco Baracca"

Abstract

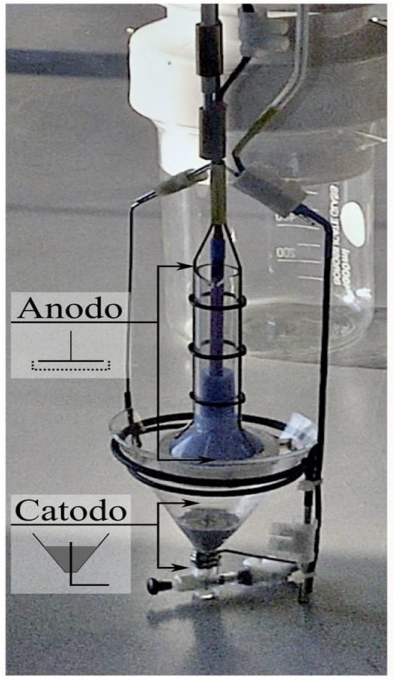
With the goal of determining the conditions to promote some anomalous effects (thermal and electrical) shown by metals in the presence of hydrogen gas or during electrolytic evolution, we focused the attention on the use of high voltage, narrow electric pulses, with low repetition rate, on small sized metal powders.
The experimental data collected during the experimentation, relative to cathodes made from tungsten micrometric powders subjected to electrolytic regime (solutions of K_2CO_3) at voltages up to 350 V and the average power of 200-300 W, show the *spontaneous* formation of pulses of high instantaneous power, up to 30 - 40 KW, in conjunction with abnormal development of heat.

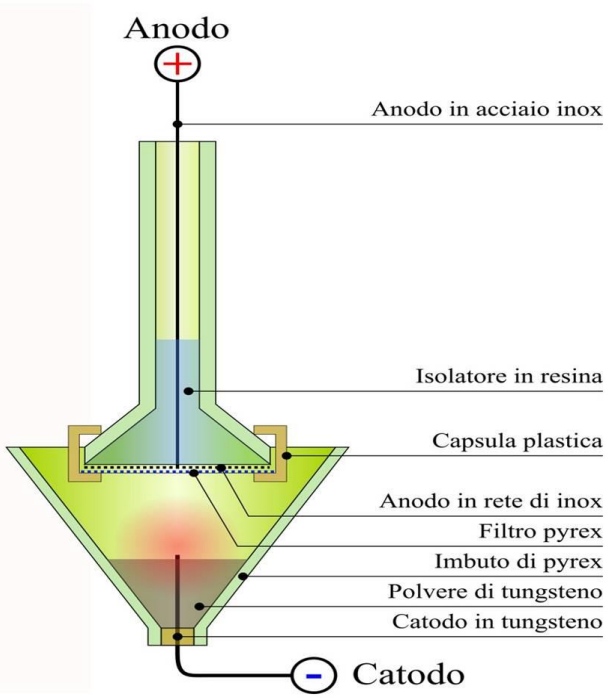
Moreover, we was able to perform a *direct* extraction of a part of the electric energy contained in such plasma pulsations, by a suitable circuit, in the so called “negative resistance” region.
These data have suggested the design of a suitable reactor and its experimental set-up, for the extension of the experimentation to nanometric powders made from different metals, subjected to *programmed* high voltage narrow impulsive discharges, in the hydrogen gas.
Some results of the experiments, conducted varying the composition and particle size of the metal powders, the hydrogen pressure and the characteristics of impulsive discharges, will be shown in the conference.
The results will be framed in the context of the theory of "Energy localization".

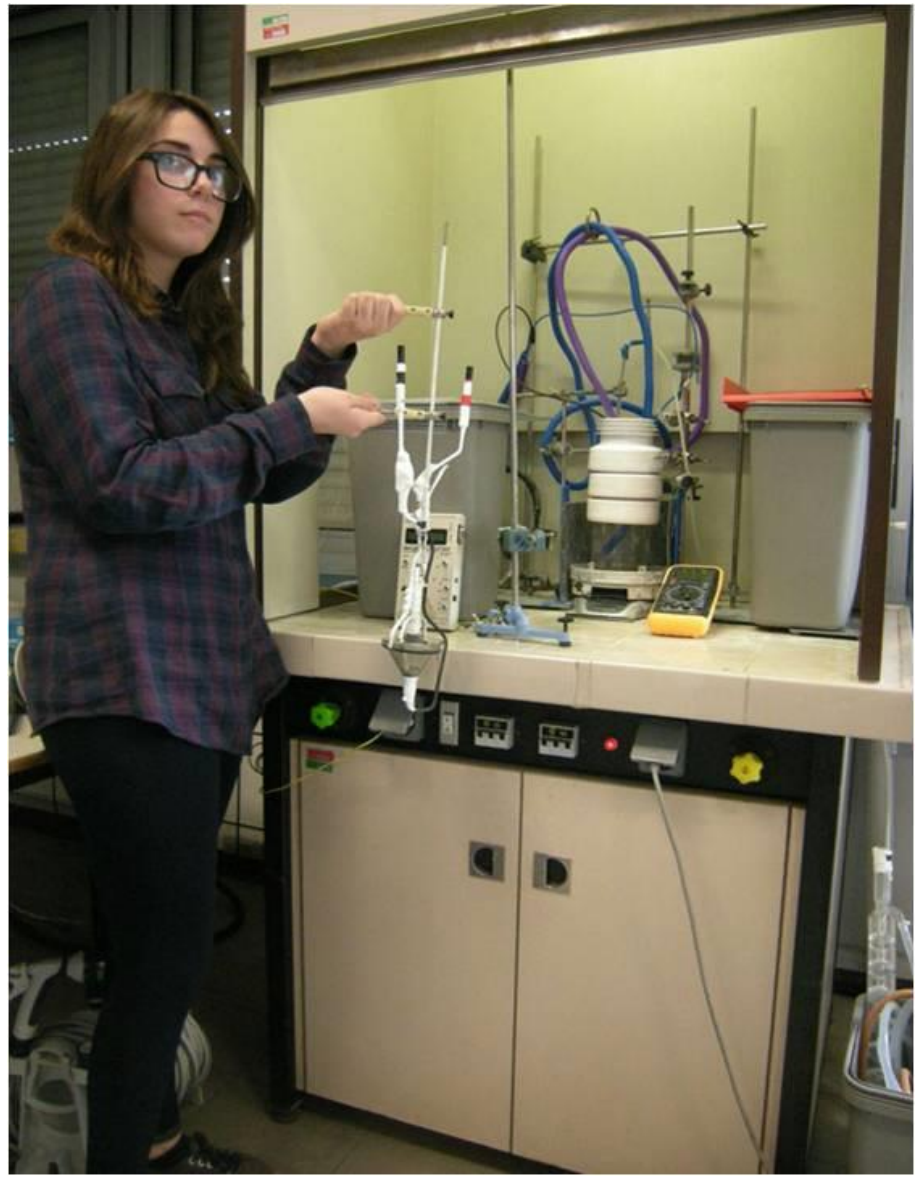
SOME EXPERIMENTAL RESULTS

In 2012, in the Physics Lab at “L. Pirelli” High School, in Rome an experimentation begins by a group of teachers and students

Athanor reactor (anomalous heat excesses)
inox mesh (anodic) and a tungsten cylinder (cathodic) in an aqueous solution of K_2CO_3 running in electrolytic plasma







experimental campaigns

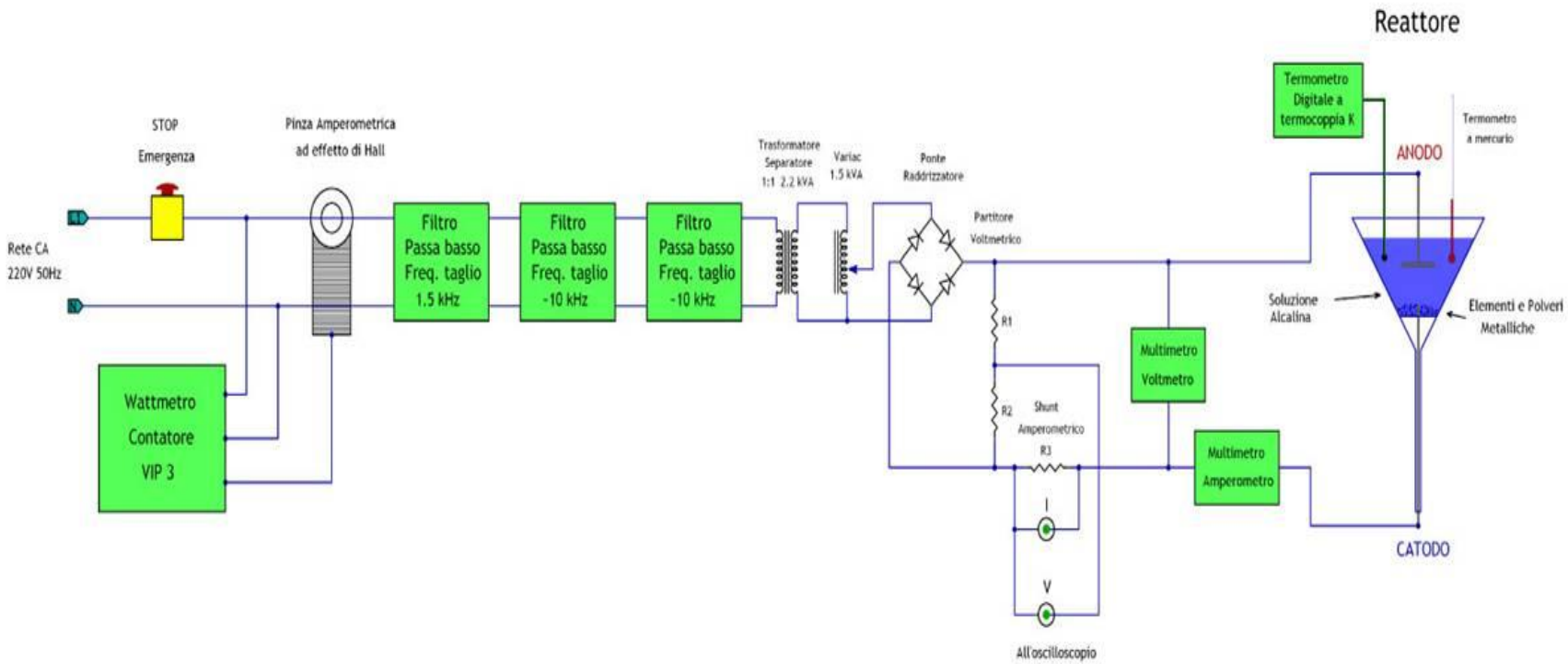
at *J. Von Neumann Foundation* Lab in Rome

From **Athanor** to its heir **Hydrobetatron 1.0** reactor

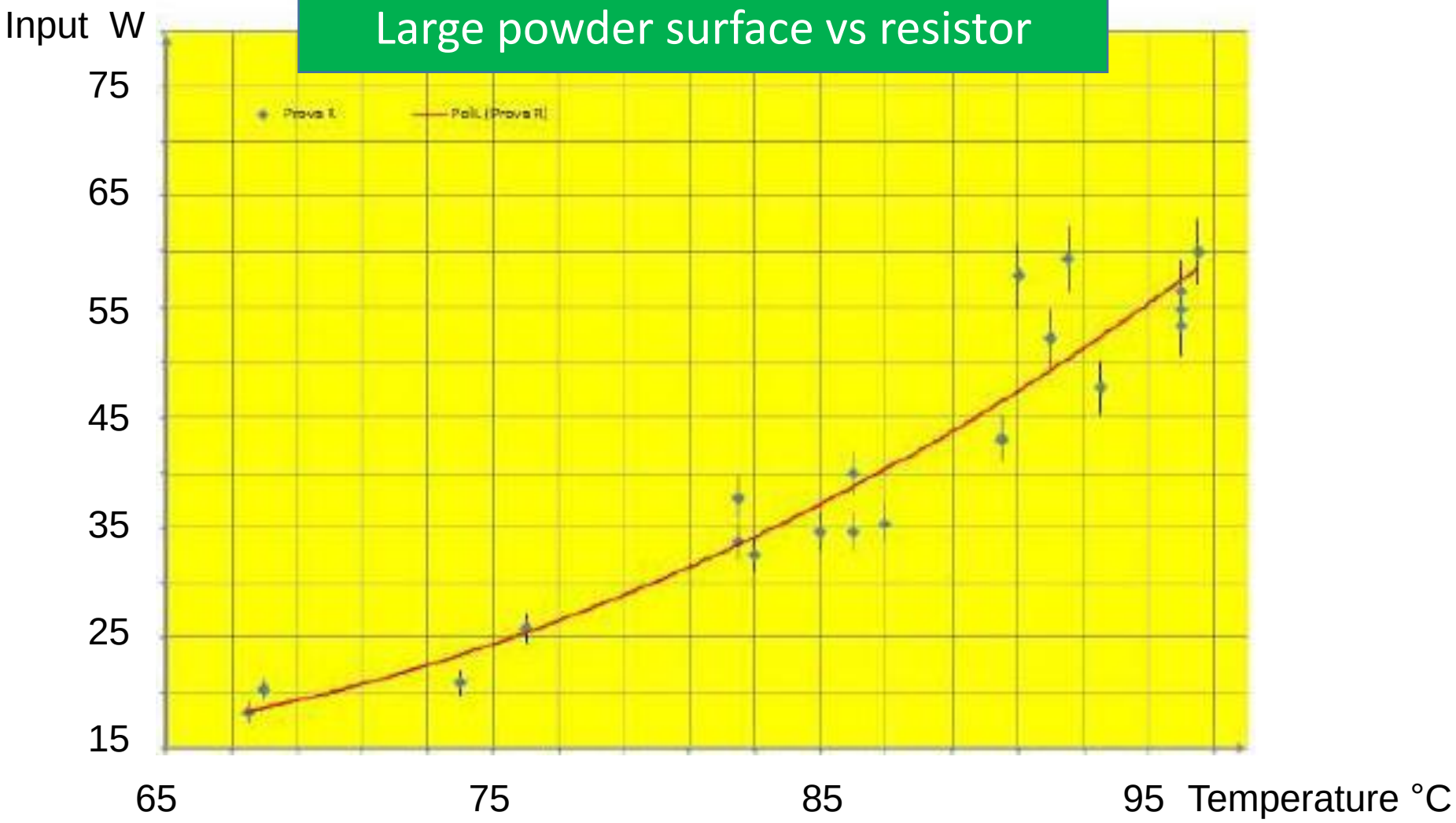
(special powder cathode)

Test Hydro-Betatron

(Schema a blocchi)



Large powder surface vs resistor



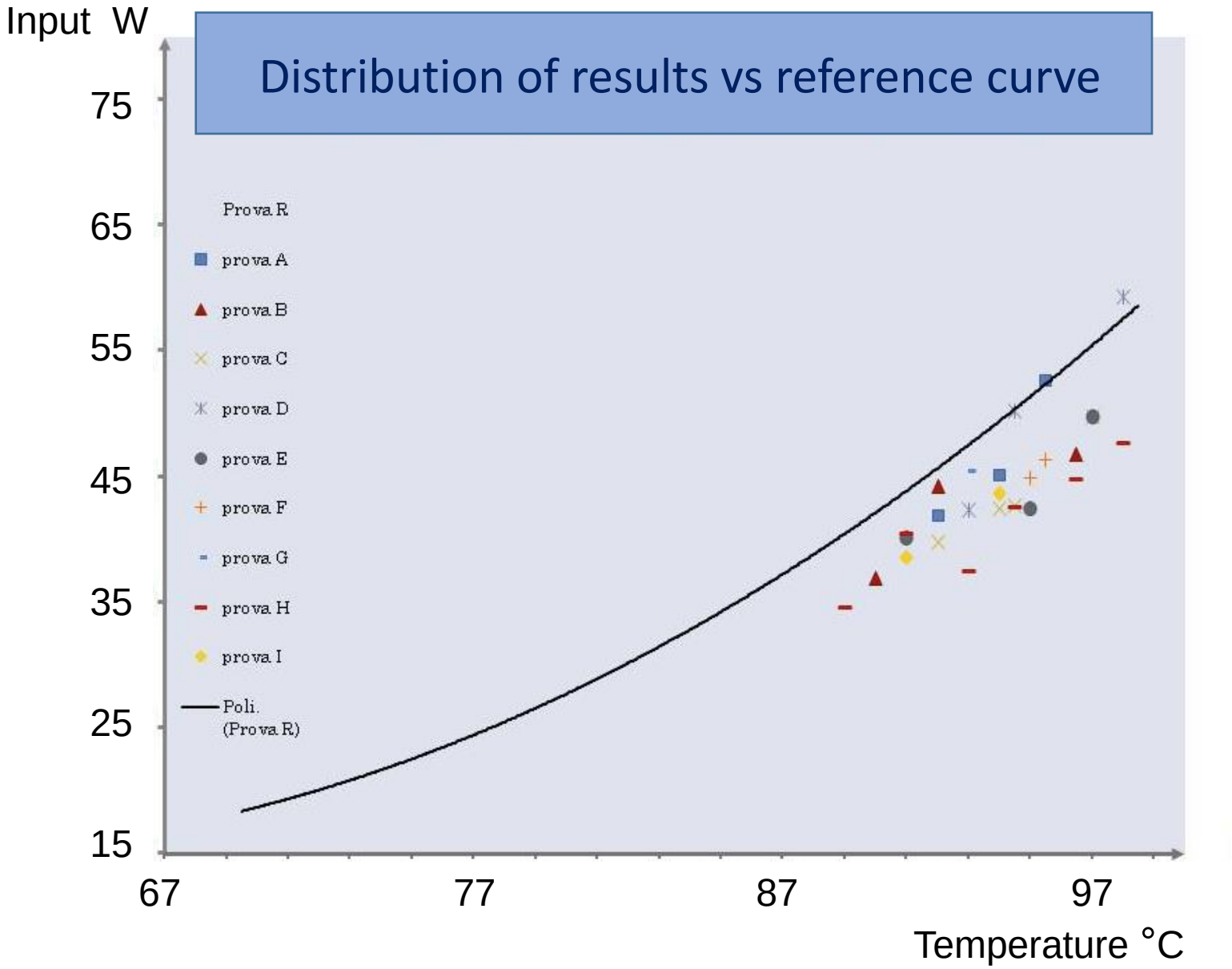
Reference graph

Self-referring tests

Sample composition **run R (reference) – no plasma**

Grains /Powders	0g	1g	2g	3g
0g	A	B	C	
1g	D	E	F	
2g	G	H	I	
3g				R

Distribution of results vs reference curve

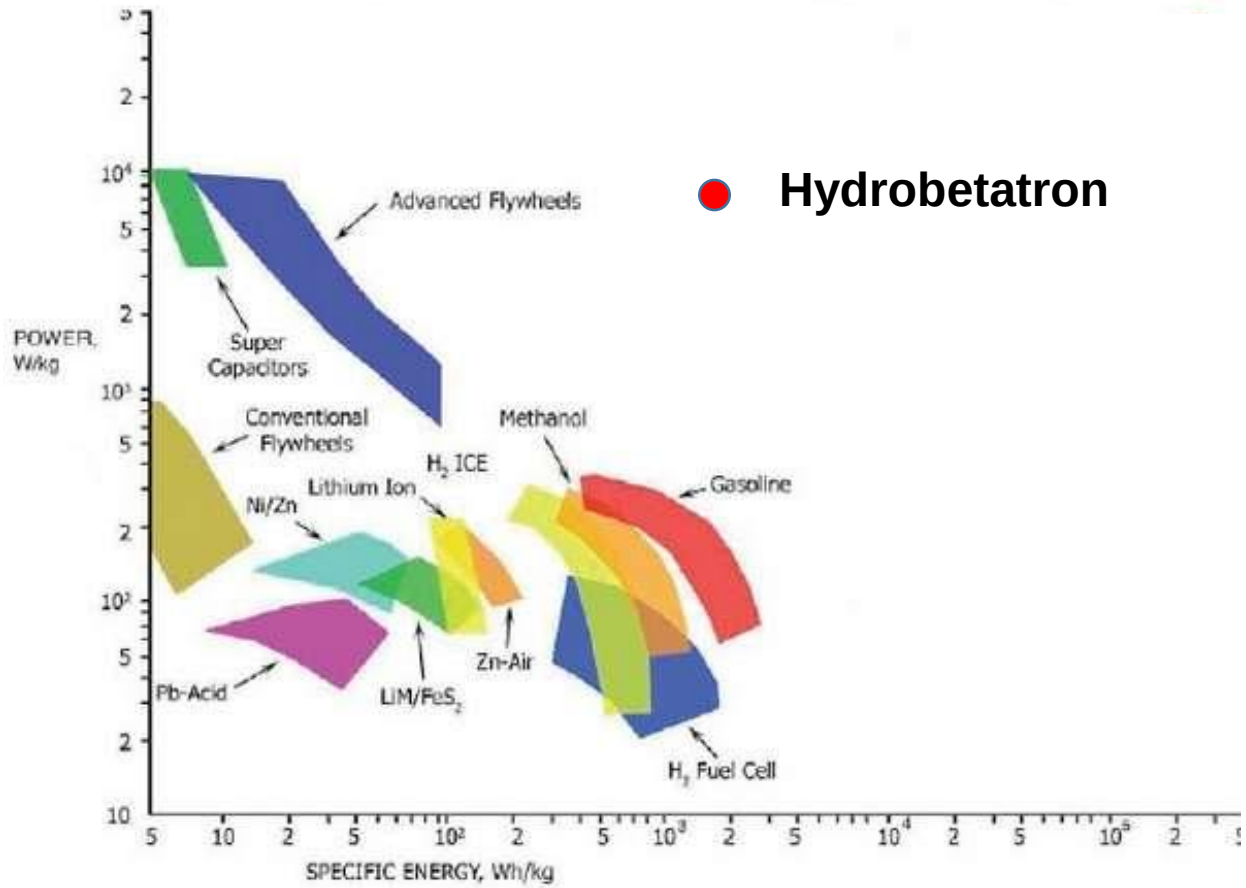


Subject: LENR **heat anomaly** **in electrolytic plasma**

Excitation mode: electrical, DC
Equilibrium temperature after 10 minutes
Mean input power **38 W**
Mean output power **48 W**
COP (definition) = reference power/input power **Max COP = 1.26**
Input energy 22800 J
Output energy 28800 J
Excess energy 6000J

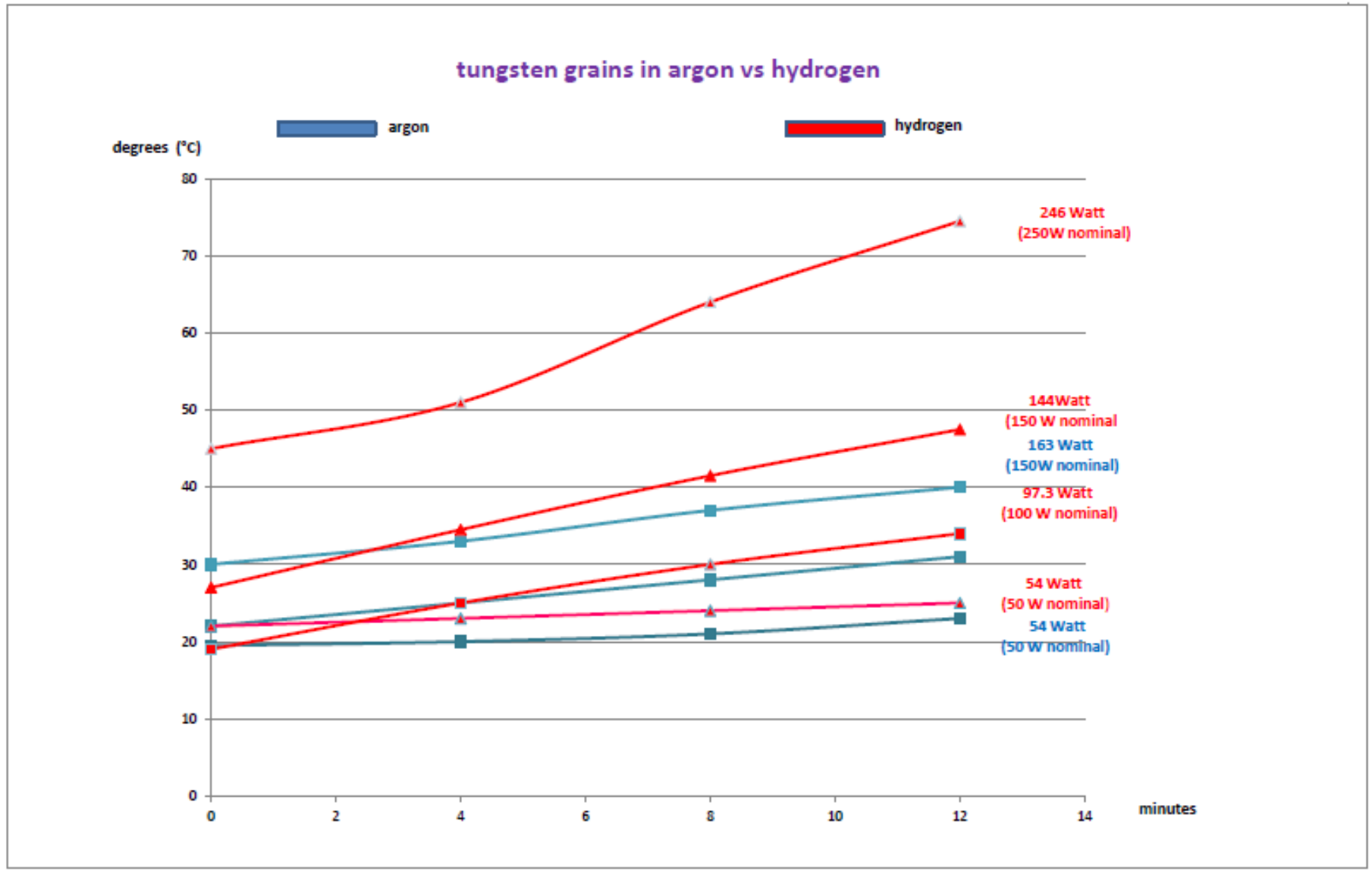
Power density 10000 W/Kg
Specific energy 1650 Wh/Kg

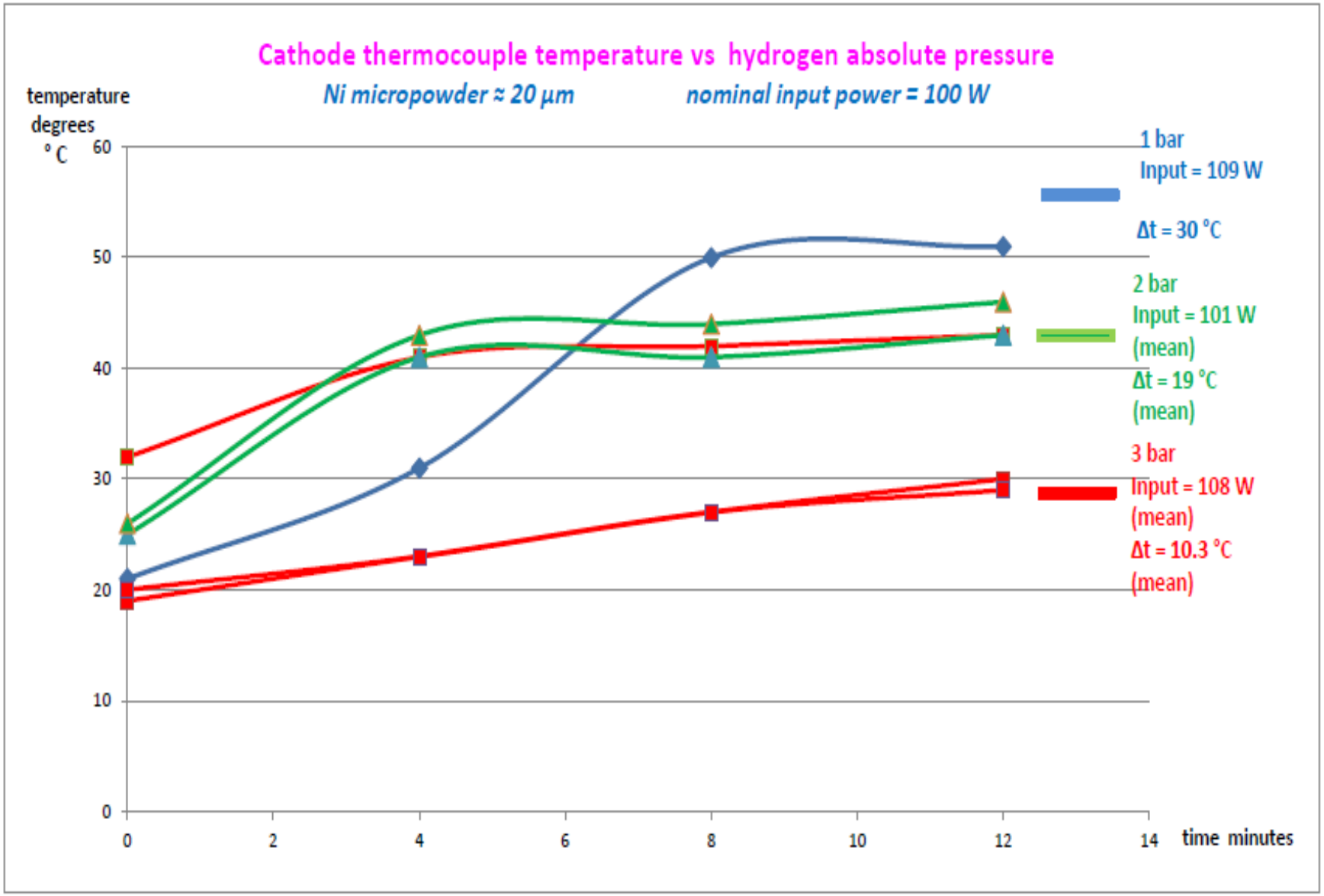
Ragone Plot of Energy Storage

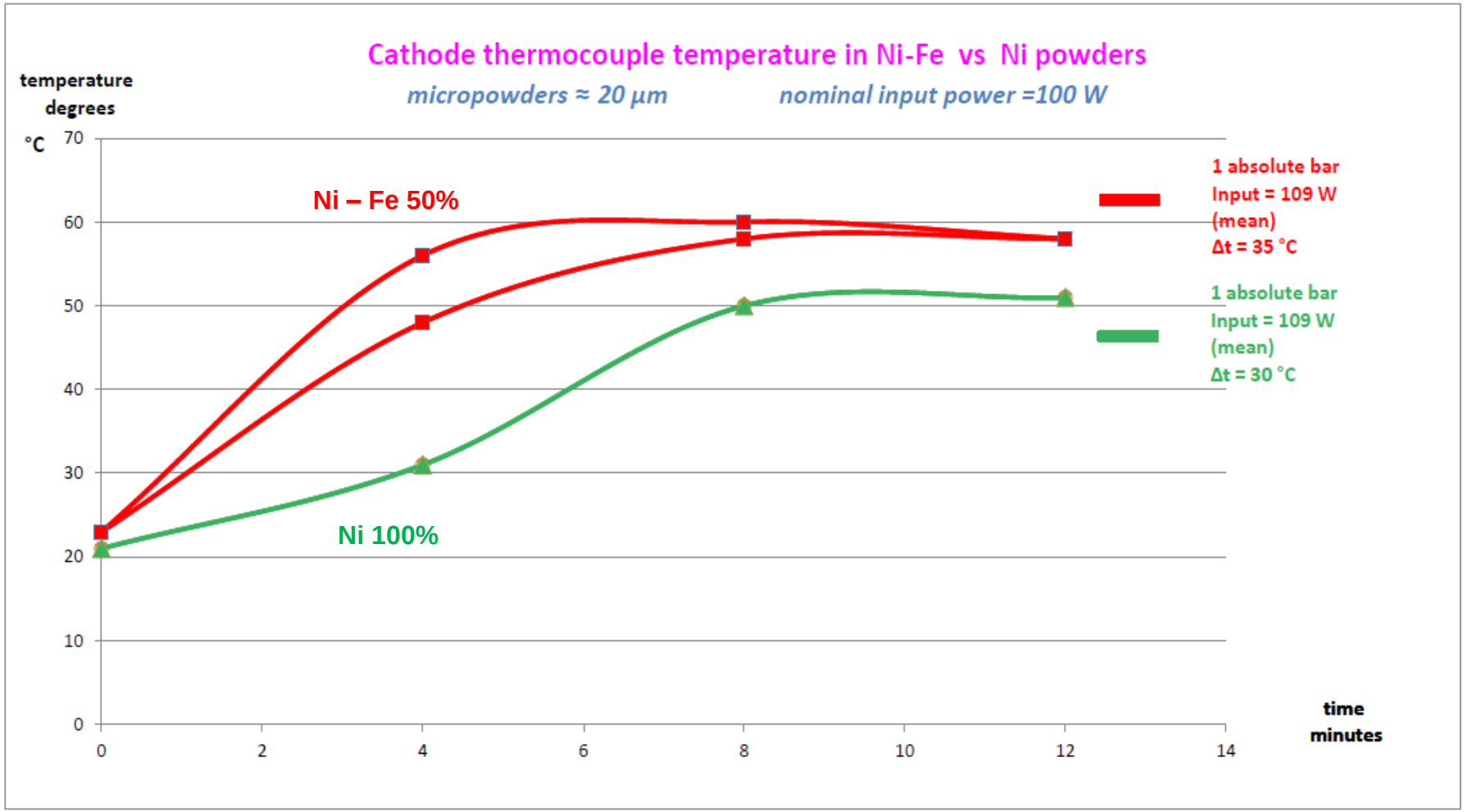


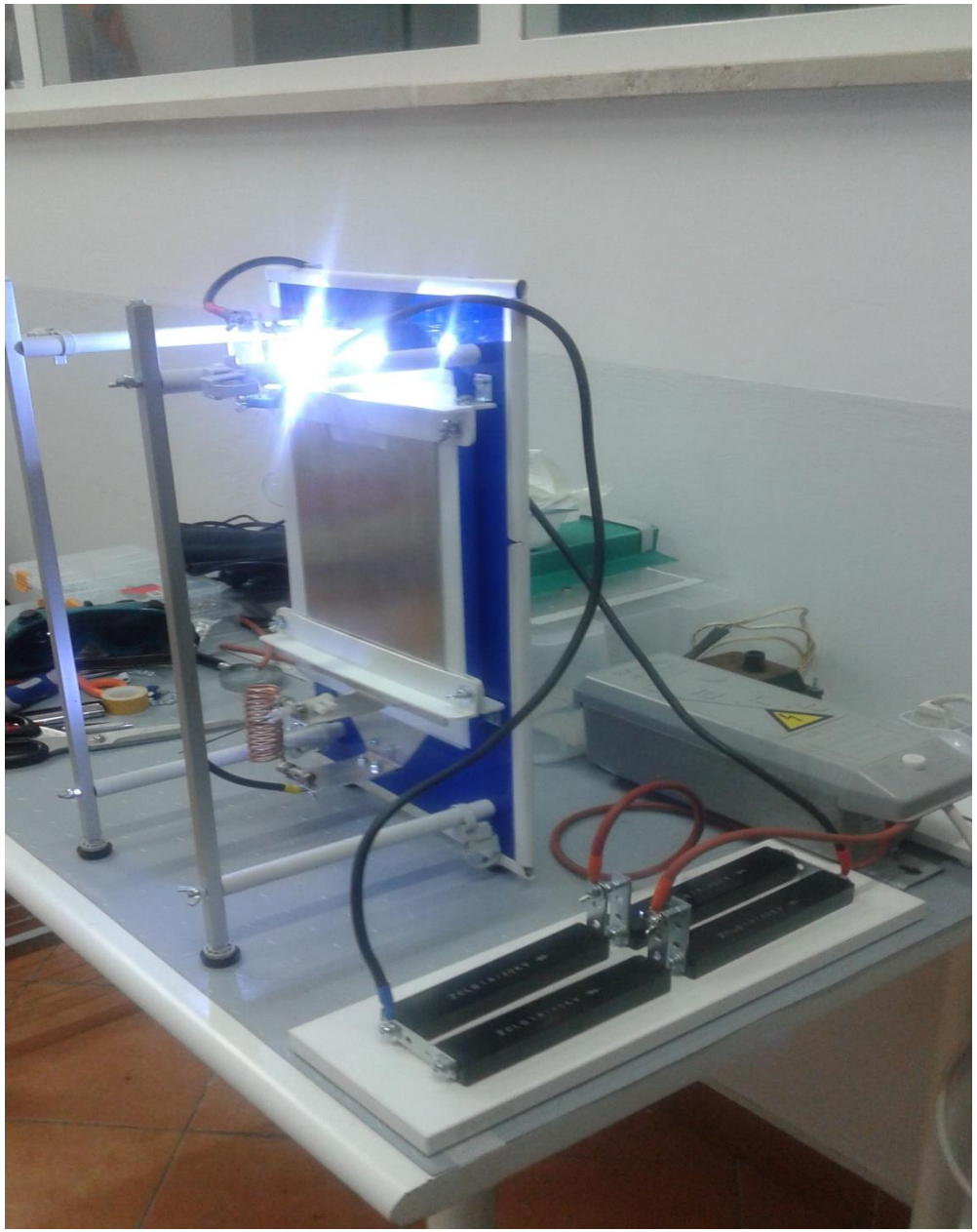
- **Hydrobetatron**

Actually (**Hydrobetatron 2.0**) experimentation is continuing by studying about the effect of a deliberately pulsed solicitation, variable in amplitude, ascent slope, pulse duration, repetition frequency, duty-cycle (proprietary pulse device) on nanometric composite structures (sintered cathodes from multicomponent powders, electroplated multilayers, and so on) both in electrolytic or hydrogen plasmas, under the effect of magnetic field.

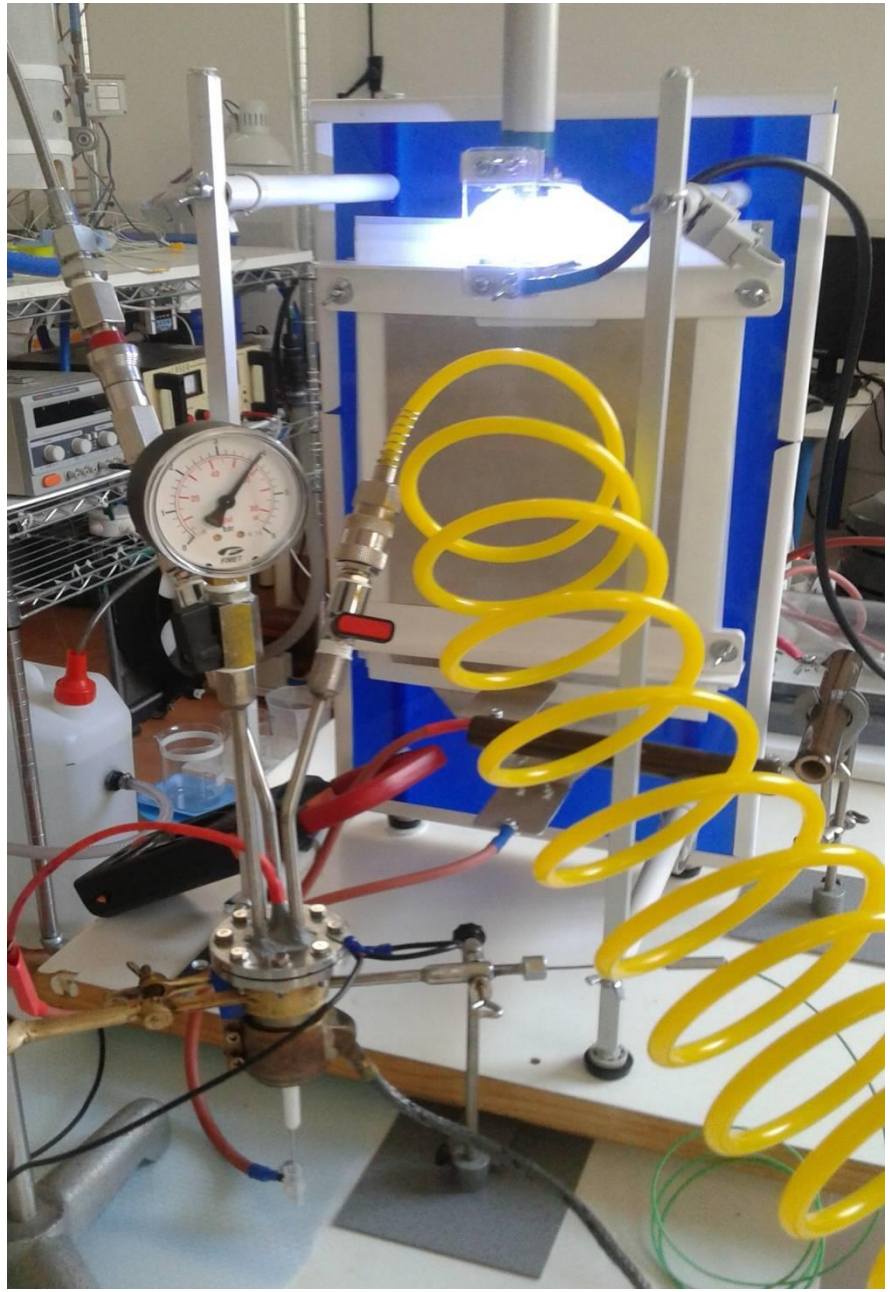

tungsten grains in argon vs hydrogen
argon
hydrogen
degrees (°C)
80
70
60
50
40
30
20
10
0
0
2
4
6
8
10
12
14
minutes
246 Watt
(250W nominal)
144Watt
(150 W nominal
163 Watt
(150W nominal)
97.3 Watt
(100 W nominal)
54 Watt
(50 W nominal)
54 Watt
(50 W nominal)


Cathode thermocouple temperature vs hydrogen absolute pressure
Ni micropowder ≈ 20 µm
nominal input power = 100 W
temperature degrees °C
60
50
40
30
20
10
0
0
2
4
6
8
10
12
14
time minutes
1 bar
Input = 109 W
Δt = 30 °C
2 bar
Input = 101 W
(mean)
Δt = 19 °C
(mean)
3 bar
Input = 108 W
(mean)
Δt = 10.3 °C
(mean)

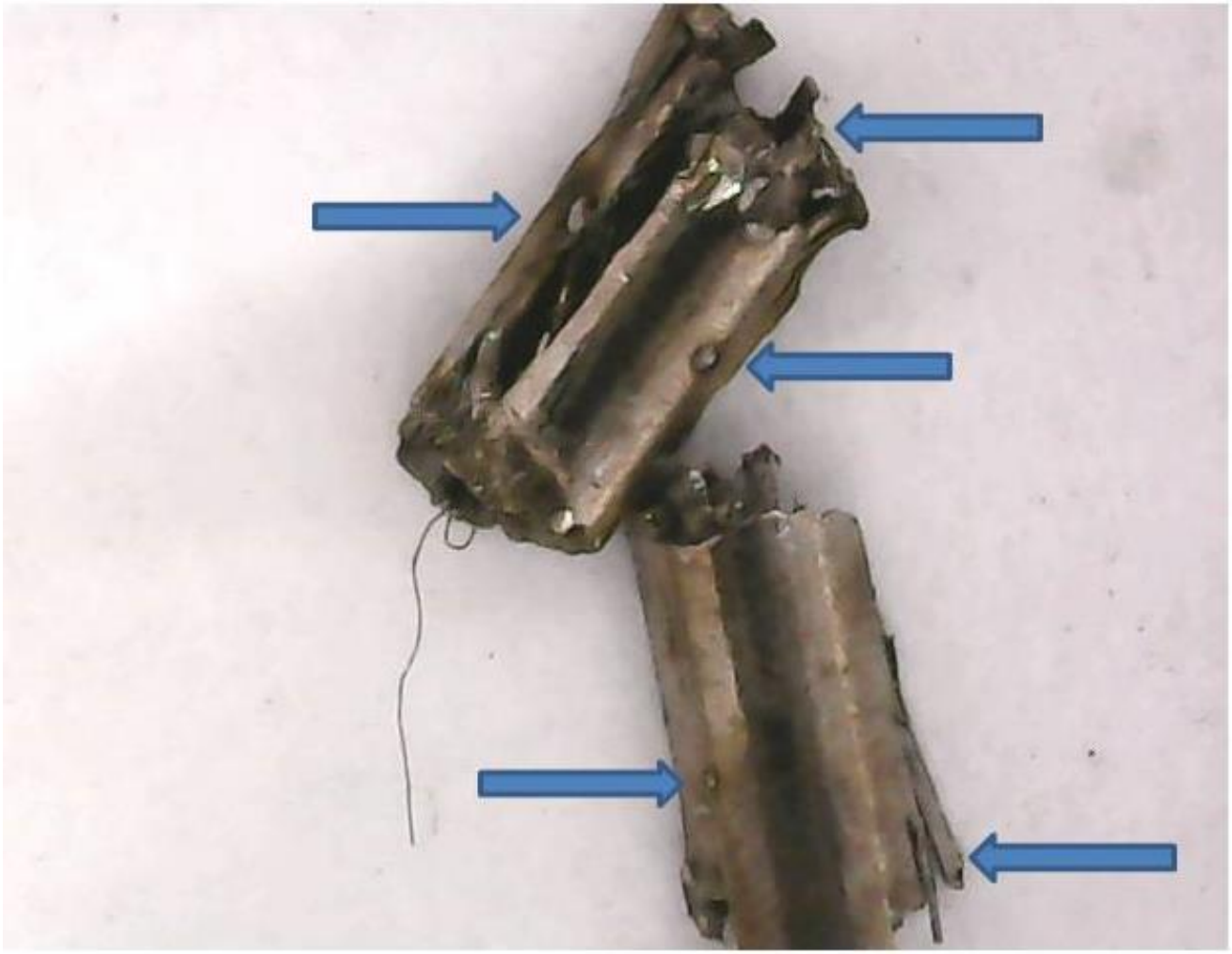

Cathode thermocouple temperature in Ni-Fe vs Ni powders
micropowders ≈ 20 µm
nominal input power =100 W
temperature degrees °C
70
60
50
40
30
20
10
0
0
2
4
6
8
10
12
14
time minutes
Ni – Fe 50%
Ni 100%
1 absolute bar
Input = 109 W
(mean)
Δt = 35 °C
1 absolute bar
Input = 109 W
(mean)
Δt = 30 °C



Pulse generator



Hydrobetatron



Tungsten cylinders with craters and cracks

CONCLUSIONS

The experimental work about **Nuclear Synthesis** should continue trying to accomplish *highly unlikely configurations*, quickly decaying towards conditions at decreasing information content, sustaining isolated high fluctuation frequencies (B. Ahern's *energy localization*).

After the shown preliminary results, a deeper cooperative research in the drawn direction should appear now fully justified.