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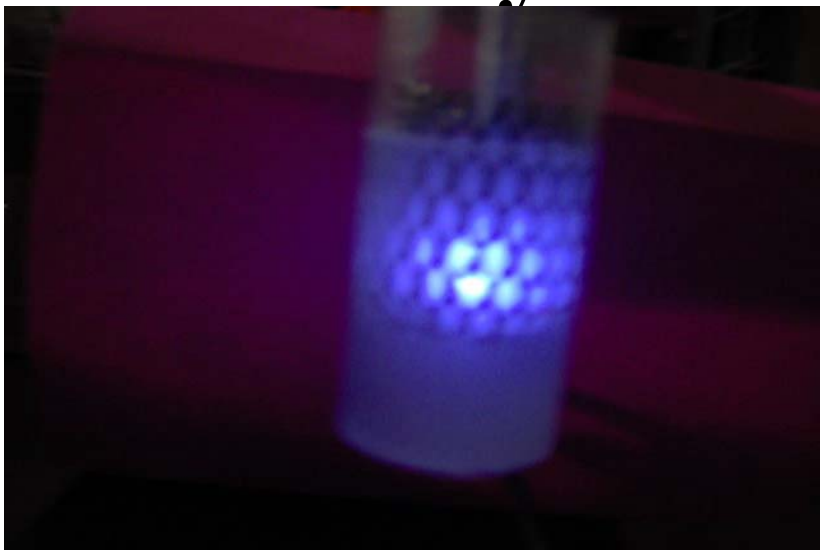
Search for Radiation Signals from Electrolytic Cells



Dennis Cravens

Cloudcroft, NM 88317

Southern Christian University

All data are preliminary
A work in progress

- Calorimeter – 125 liter tank – temperature rise of water
- Temperature of room tracks water temperature with a 60 minute delay.
- Approximately 1 degree per hour at 100 W (easy signal to see)
- 4 inches (Styrofoam insulation)
- Active insulation panels – set for outer panels to track temp of inner panel to -0.1 degree to prevent heat movement.

Typical Cell

- Heavy water
- Sulfamic acid as electrolyte (**H_2NSO_3H**)
- Pt plated Ta screen anode – formed to max current density at point of cathode
- Plated W cathode
- Cathode point about 0.01cm^2 area to electrolyte
- Very high current densities (10 amps for about 1000A/cm^2)
- Use of “doped” plating (example Sm with large n cross section)

Cell configuration

Radiation – gamma/charge ions

- No neutrons yet found above background (counts about 1 to 2 , lab at 9000 feet)
- Possibly 1.5 sigma gammas when cell is in pulse mode (just enough to be uncertain)
- Nothing seen with DC and constant current
- Possible signal when first turned on (noise?)

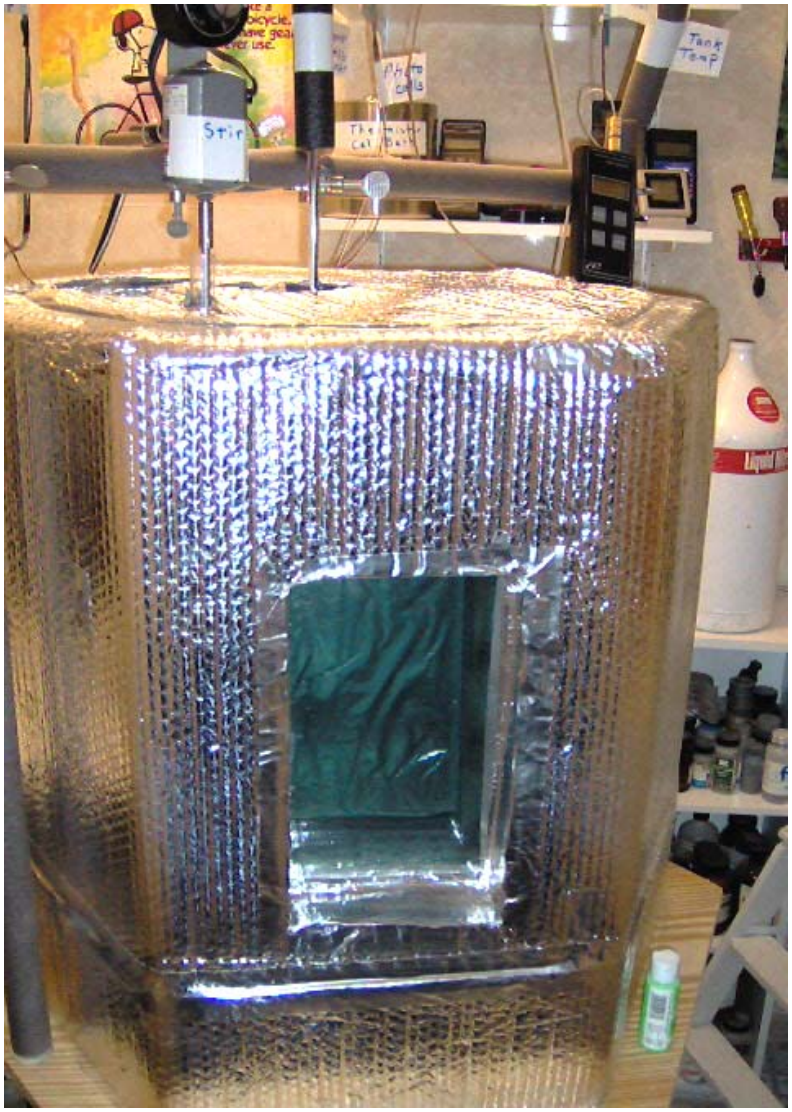
Tank fitted with photocells

- Hexagonal tank (35 gallon aquarium)
- Photocells placed in series around sides
- Foil lined outside and light tight (when view port closed)
- View port – 5 panels with air gaps
- Can check time of light emission after pulse of power to cell – (about 10 ms)
- Can check glow half life after turn off
- (order of 5 ms)

Photocell on back wall

Tank half full (floating balls to reduce surface loss) – reflective interior – view through open view port

Large tank



- All insulation but primary, active panels and outer wrap remove
- Active mixing
- 5 point temp averages
- Measure heat rise over 5 to 10 hours
- Good for 100 to 500 W range of day runs
- Simple- only time and temp needed for output

Glowing cell

- Cell glows with “eerie” glow light through out the electrolyte.
- Color only checked with simple color filer wheels – about 500nm +/- 25nm
- Light maximum at higher V than “excess power”
- “Sparkles” about 400 to 1000 Hz
- Typical input power levels 80 to 150 W

Cell at 10 A

Electrical signals

- Power factor shifts prior to “excess heat” production
- Power factor on 60 to 500 Hz may change from 1.0 to 0.3 (about)
- Greatest “excess” seen with smallest power factor
- Excess not yet greater than that expected if the power factor measures were totally wrong.
- RF emissions in the 10 to 40 MHz

Factors to help in seeing “excess heat”

- Use of proprietary plating (involves addition of spin exchange agents, lattice spacing)
- At higher current densities (on the order of 1000A/cm^2)
- Higher input frequencies (order of 500 to 20K Hz)
- Shorter duty cycles (5 to 10 %)
- At shift of power factors to below 0.5
- Running at currents just below or at “turn on” of blue light emission.
- Using H or D as only positive ions after plating.

The Future

- Use of spectrophotometer to ID wavelengths
- Use of “exotics” in plating
- Use of spherical D2O+BeSO4 tank for n multiplication (now in preparation)
- Higher Voltage
- Use of CR39 alpha checks
- Use of gamma spectrum (when funded?)

“Preparing to have a Ball”

- Target BeSO4 in D2O (100g/liter)
- Be taken from old golf clubs (Cu+ Be)
- D2O from 15 years of CF experiments
- Ball will be contained in borax +wax and below ground level
- Ball next to constant temp flow system

Thanks

- Dennis Cravens
- Dennis @ tularosa.net
  - **Cloudcroft, NM**

  - **“un-funded work” just for fun**
  - **Patent pending on some undisclosed items**
  - **Work now shifted from 1 to 10 W range to 100 W range**
  - **Still in calibration mode for tank system heat measurements – but very promising, easy at this power level.**