

Electron extraction from bi-distilled water

Roberto Germano

PROMETE Srl_ CNR Spin off, Italy

Electricity extraction from water by twin electrodes, enhanced by oxygen molecules, that we call Oxhydroelectric Effect, is discussed. The extremely simple components of the experimental system are: bi-distilled water, two platinum wire electrodes, and a bit of hydrophilic material. A dc power of the order of tenths of microW was measured for days through a resistor connected to the twin Pt electrodes. This is a totally unexpected phenomenon in the frame of the classical electrochemistry, considering the absence of any significant concentration of ionic solutes. Moreover, the addition of a very small amount of hydrogen peroxide (H_2O_2) to the pure water (only 0.004% H_2O_2), as a source of oxygen, determines an immediate dc power jump, more than one order of magnitude high, lasting for days. This phenomenon has to imply an “other than ionic” conduction: as predicted by the QED description of liquid water, the coherent fraction of water, organized in coherence domains (CD) and/or sovramolecular water aggregates whose origin is correlated to CDs, provides a wide reservoir of quasi-free electrons. Water CDs collect low grade (high entropy) energy from the environment, transforming it into high grade (low entropy) energy able to perform external work, like a “microscopic engine”, similar from many points of view to the Maxwell’s Demon of his famous Gedankenexperiment. This is, probably, the same central mechanism underlying the quantum spontaneous origin of the dissipative structures experimentally observed in water (cfr. V. Elia’s speech).