

## Magnetic body is living being

Magnetic body (MB) is a living being having flux tube as basic building brick. It can in principle survive without any chemical metabolic machinery and represents extremely simple life form.

1. Flux tubes can have metabolism: energy feed increases  $h_{eff}$ . The manner to get energy from environment is to make BSFR changing the arrow of time and extract the energy from environment. MB can use even thermal energy. One can imagine MBs at beach on sunny day extracting the energy of solar radiation as lunch at beach.

One can say that MB sends negative energy to environment provided there is system able to receive it via a quantum transition. For more complex life forms bio-molecules carrying energy in their valence bonds serve as receivers of these negative energy signals.

A direct signature for the negative arrow of time is apparent generation of order as processes proceeding from short to long scales and managing to generate coherent whole. For instance processes in brain motor regions are organized to coherent activities in the scale of body. Actually motor actions change the arrow of time and this process correspond to dissipation.

2. MB has senses. Sensory experience and related activities are associated with the SSFRs.
3. MB communicates and controls by using flux tubes a quantum antenna emitting and receiving dark cyclotron radiation. This makes also possible to act as compass sensing the direction of the magnetic of larger flux tube at which MB is topologically condensed.
4. MB moves. Motor action is induced by a reduction of  $h_{eff}$  shortening the flux tube. Motion is induced as a recoil by cyclotron transition emitted when the angular momentum having quantization axis in the direction of flux tube changes: the rotational state changes. Also the momentum parallel to flux tube can change and gives rise to recoil. MB can make more complex motions reducing  $h_{eff}$  for the individual flux tubes located inside larger flux tubes.