

On the influence of the magnetic fields on the chemical reaction kinetic: is it a macroscopic quantum effect ?

Antonella De Ninno

ENEA

It has been suggested that exposure to magnetic fields, even at low intensity, has an effect on the kinetic of several chemical reaction. The mechanism underlying these phenomena is not limited to organic compounds and it seems to have a more fundamental importance since it has been suggested that the ordered structures of water molecules surrounding the hydrophobic chains is somehow altered by the magnetic exposure. This may imply an increase of the non-coherent fraction (monomers and dimers) with respect to coordinate, coherent ensemble of water molecules.

Some examples of alteration of the kinetic of simple organic and inorganic reactions under static magnetic field will be discussed together with a first attempt to come to a theory of the phenomenon.