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Garri Davydyan* (garri.davydyan@gmail.com), Ottawa Hospital, Ottawa, Ontario K1H 8L6, Canada. *Split quaternions and carcinogenesis.*

Basis elements of the imaginary part of split quaternions comprise a Lie algebra $sl(2, \mathbb{R})$. There is a direct correspondence between the three basis elements of $sl(2, \mathbb{R})$ and functional patterns of biologic systems. The patterns represented by second order matrices are negative feedback, positive feedback and reciprocal links. This is supported by the cardinal property of biologic systems- functional stability. Indeed, each of the basis matrices determines an evolution of subsystem, that occurs on the surface of the same energy level. There are numerous pathological conditions making biological systems unstable. Among them a cancer characterizes by invasive cells proliferation. Cell proliferation which lost reciprocity with apoptosis results in the deterioration of reciprocal relations between systems components. Formally it can be described as a transformation of the operator of reciprocal links to the unit operator 1, where -1 entry is replaced by +1. The unit element 1 considered as an operator of ODE determines an evolution of unsteady systems which escape the constant energy level. If added to the basis of $sl(2, \mathbb{R})$ the obtained split quaternion structure will provide a functional frame for describing deteriorating behaviour of biological systems. (Received August 31, 2016)