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Garri Davydyan* (garri.davydyan@gmail.com). *Split-quaternions and diverging mechanisms of biologic evolution.*

A biologic evolution is an ability of a biologic matter to develop its functional and structural properties. It is based on reproduction of its own elements. Only core features are reproducible in the following generations. This is determined by steadiness and stability of functional organization of biological units (systems). Based on the existing data, previously it was proposed that positive feedback, negative feedback and reciprocal links (PNR) being represented as elements of imaginary part of split-quaternions, form a functional basis of internal structure of biologic systems. Formation of these basis elements corresponds with a 3D pseudo-Euclid space of functional regulatory elements of autonomous biologic systems. There is a correspondence between two opposite directions in 3D space and a direct sum of two operators with opposite entries. This intrinsic property of basis functional elements of biologic systems determines splitting mechanism of evolution. (Received August 19, 2019)