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PHENOMENOLOGICAL ARCHITECTURE OF A MIND AND OPERATIONAL ARCHITECTONICS OF THE BRAIN: THE UNIFIED METASTABLE CONTINUUM

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In our contribution we will observe phenomenal architecture of a mind and operational architectonics of the brain and will show their intimate connectedness within a single integrated metastable continuum. The notion of operation of different complexity is the fundamental and central one in bridging the gap between brain and mind: it is precisely by means of this notion that it is possible to identify what at the same time belongs to the phenomenal conscious level and to the neurophysiological level of brain activity organization, and what mediates between them. Implications for linguistic semantics, self-organized distributed computing algorithms, artificial machine consciousness, and diagnosis of dynamic brain diseases will be discussed briefly.

Keywords: EEG, brain operation; functional isomorphism; dynamical neuroscience; consciousness

Cited by :

- Andrew A. Fingelkurts, Alexander A. Fingelkurts, Carlos F.H. Neves. (2013) Consciousness as a phenomenon in the operational architectonics of brain organization: Criticality and self-organization considerations. *Chaos, Solitons & Fractals*. Online publication date: 1-Mar-2013. [CrossRef]
- Andrew A. Fingelkurts, Alexander A. Fingelkurts. (2013) Dissipative many-body model and a nested operational architectonics of the brain. *Physics of Life Reviews* **10**:1, 103-105. Online publication date: 1-Mar-2013. [CrossRef]
- Andrew A. Fingelkurts, Alexander A. Fingelkurts. (2012) Mind as a nested operational architectonics of the brain. *Physics of Life Reviews* **9**:1, 49-50. Online publication date: 1-Mar-2012. [CrossRef]
- Andrew A. Fingelkurts, Alexander A. Fingelkurts, Carlos F.H. Neves. (2012) "Machine" consciousness and "artificial" thought: An operational architectonics model guided approach. *Brain Research* **1428**, 80-92. Online publication date: 1-Jan-2012. [CrossRef]
- Andrew A. Fingelkurts, Alexander A. Fingelkurts. (2011) Persistent operational synchrony within brain default-mode network and self-processing operations in healthy subjects. *Brain and Cognition* **75**:2, 79-90. Online publication date: 1-Mar-2011. [CrossRef]
- Alexander A. Fingelkurts, Andrew A. Fingelkurts. (2010) Topographic mapping of rapid transitions in EEG multiple frequencies: EEG frequency domain of operational synchrony. *Neuroscience Research* **68**:3, 207-224. Online publication date: 1-Nov-2010. [CrossRef]
- Giampaolo Sasso. (2010) Dynamic sensory-motor oscillation and cerebral development. *Cognitive Processing* **11**:4, 307-329. Online publication date: 1-Nov-2010. [CrossRef]
- Alexander A. Fingelkurts, Andrew A. Fingelkurts. (2009) Is our brain hardwired to produce God, or is our brain hardwired to perceive God? A systematic review on the role of the brain in mediating religious experience. *Cognitive Processing* **10**:4, 293-326. Online publication date: 1-Nov-2009. [CrossRef]