
Evolution and ecology of Galactic processes

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Evolution of galactic processes reveals gravitational and hydrodynamic instability, phase transitions, emergence of new forms, including living substance. Different but functionally interrelated possibilities are responsible for them. Galaxies, clusters and planets are unique. Ecological conditions in the Milky Way galaxy, in the Solar system and on the planet Earth evolved under the impact of very specific mechanisms. Study of these mechanisms is a very important theoretical and practical task of sciences.

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REFERENCES

- [1] *Galaxies*. Moscow, Fizmatlit Publ., 2013, 432 p.
- [2] Shuvaev G.V. *Kontseptsiya nauchnoi kartiny mira "Tsiklonicheskaya Vselennaya"* [The Concept of the Scientific Picture of the World "Cyclonic Universe"]. Yaroslavl, 2014, 230 p.
- [3] Paraev V.V., Molchanov V.I., Eganov E.A. *Filosofiya Nauki — Philosophy of Sciences*, 2009, no. 3(42), pp. 140–165.
- [4] Ebeling W., Feistel R. *Chaos und Kosmos: Prinzipien der Evolution* [In Russian: Ebeling W., Feistel R. Khaos i Kosmos: Sinergetika evolyutsii. Moscow-Izhevsk, NITs "Regulyarnaya i khaoticheskaya dinamika", 2005, 336 p.].
- [5] Lozinskaya T.A. *Vzryvy Zvezd i Zvezdnyy Veter v Galaktikakh* [Explosions of Stars and Stellar Wind in Galaxies]. Moscow, 2013, URSS Publ., 216 p.
- [6] Tsvart S.P. *V Mire Nauki — Scientific American*, 2010, no. 1, pp. 16–23.
- [7] Dmitriev V.F. *Fizika informacionnogo stroeniya materii* [Physics of the Information Structure of Matter]. Tula, FGUP "SNPP "SPLAV", 2012, 500 p.
- [8] Penrose R. *The Emperor's New Mind: Concerning Computers, Minds and The Laws of Physics* [In Russian: Penrouz R. Novyy um korolya: o kompyuterakh, myshlenii i zakonakh fiziki]. Moscow, URSS Publ., 2003, 384 p.
- [9] Hazen A.M. *Razum prirody i razum cheloveka* [The Intelligence of Nature and of the Human Mind]. Moscow, Mosobluprpoligrafizdat, 2000, 610 p.
- [10] Krauss L.M. *V Mire Nauki — Scientific American*, 2014, no. 12, pp. 22–32.
- [11] Carlip S. *V Mire Nauki — Scientific American*, 2012, no. 6, pp. 24–32.
- [12] Levitan E.P. *Fizika Vselenny. Ekskurs v problemu* [Physics of the Universe: Insight into the Problem]. Moscow, URSS Publ., 2013, 184 p.
- [13] Gurevich L.E., Chernin A.D. *Proiskhozhdenie Galaktiki i Zvezd* [The Origin of Galaxy and Stars]. Moscow, Nauka Publ., 1987, 192 p.
- [14] Yanchilin V.L. *Kvantovaya teoriya gravitacii* [Quantum Theory of Gravitation]. Moscow, 2002, URSS Publ., 256 p.

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