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Possible implications for discovery of strong radial magnetic field at the galactic center

An anomaly strong radial magnetic field near the galactic center (GC) is detected. The lower limit of the radial magnetic field at $r=0.12$ pc from the GC is $B \geq 10$ mG. Its possible scientific significances are following: The black hole model at the GC is incorrect. The reason is very simple as follows, the radiations observed from the region neighbor of the GC are hardly emitted by the gas of accretion disk which is prevented from approaching to the GC by the abnormally strong radial magnetic field. This is an anticipated signal for existence of magnetic monopoles (MM). The lower limit of the detected radial magnetic field is quantitatively in agreement with the prediction of the paper "An AGN model with MM". Magnetic monopoles may play a key role in some very important astrophysical problems: Nucleons may decay catalyzed by MM (RC effect according to the particle physics). Taking the RC effect as an energy source, we have proposed an unified model for various supernova explosion. And we may explain the physical reason of the Hot Big Bang of the Universe with the similar mechanism of supernova explosion by using the RC effect as an energy source.

Recent Publications

1. Eatough R P, et al. (2013) A strong magnetic field around the supermassive black hole at the center of the Galaxy. *Nature* 591:391-393.
2. Qiu He Peng, Jing Jing Liu and Chi Kang Chou (2016) A possible influence on standard model of quasars and active galactic nuclei in strong magnetic field. *Astrophys Space Sci* 361:388.
3. Qiu He Peng, Jing Jing Liu and Zhong Qi Ma (2017) Some new possible anticipated signals for existence of magnetic monopoles? *New Astronomy* 57:59-62.
4. Peng Q and Chou C (2001) High-energy radiation from a model of quasars, active galactic nuclei, and the galactic center with magnetic monopoles, *ApJ*. 551:L23-L26.
5. Qiu He Peng, Jing Jing Liu and Chih Kang Chou (2017) A unified model of supernova driven by magnetic monopoles. *Astrophys Space Sci*, <https://doi.org/10.1007/s10509-017-3201-1>.

Biography

Qiu He Peng is mainly engaged in nuclear astrophysics, particle astrophysics and Galactic Astronomy research. In the field of Nuclear Astrophysics, his research project involved a neutron star (pulsar), the supernova explosion mechanism and the thermonuclear reaction inside the star, the synthesis of heavy elements and interstellar radioactive element such as the origin of celestial ^{26}Al . In addition, through his lectures, he establishes Nuclear Astrophysics research in China. He was invited by Peking University, by Tsinghua University (both in Beijing and in Taiwan) and by nuclear physics institutes in Beijing, Shanghai, Lanzhou to give lectures on Nuclear Astrophysics for many times. He has participated in the international academic conferences over 40 times and he visited more than 20 countries. In 1994, he visited eight institutes in USA to give lectures. He is the first Chinese Astrophysicist to visit NASA and to give a lecture on the topic, "Nuclear Synthesis of Interstellar ^{26}Al ". In 2005, he visited USA twice and gave lectures in eight universities again. Inviting six astronomers of USA to give series lectures, he has hosted four consecutive terms summer school on gravitational wave astronomy. After the four summer school obvious effect, at least 20 young scholars in China in the field of gravitational wave astronomy specialized learning and research. 220 research papers by him have been published.

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