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### Explosion of collapsed supernova and hot big bang of the universe driven by magnetic monopoles

An anomaly strong radial magnetic field near the Galactic Center (GC) is detected<sup>[1]</sup>. The lower limit of the radial magnetic field at  $r=0.12$  pc from the GC is  $B \geq 8mG$

It is possible scientific significances are following:

- The black hole model at the GC is incorrect. The reason is that radiations observed from the region neighbor of the GC are hardly emitted by the gas of accretion disk due to it being prevented from approaching to the GC by the abnormally strong radial magnetic field<sup>[2]</sup>.
- This is an anticipated signals for existence of magnetic monopoles (MM)<sup>[3]</sup>.
- The lower limit of the detected radial magnetic field is quantitatively in agreement with the prediction of our paper "An AGN model with MM"<sup>[4]</sup>.
- Magnetic monopoles may play a key role in some very important astrophysical problems using the Robakov-Callen effect that nucleons may decay catalyzed by MM.
- Taking the RC effect as an energy source, we have proposed a unified model for various supernova explosion<sup>[5]</sup>, including to solve the question of the energy source both in the Earth core and in the white dwarfs.
- 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 centre of the Galaxy", <Nature>, Vol.591, 391-393.
2. Qiuhe 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* (2016) 361:388
3. Qiuhe Peng, Jing-Jing Liu and Zhong-Qi Ma, 2017, "Some new possible anticipated signals for existence of magnetic monopoles?", *New Astronomy*, 57 (2017)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(2001) L23-L26
5. Qiuhe Peng, Jing-Jing Liu and Chih-Kang Chou, 2017, "A unified model of supernova driven by magnetic monopoles", *Astrophys Space Sci*, 2017, 362:222

### Biography

Qiuhe 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 26Al. 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 26Al". 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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