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Qiu-he Peng

Nanjing University, China

The evidence of magnetic monopoles by astronomical observation and its astrophysical implication

A key observation has been reported in 2013: An abnormally strong radial magnetic field near the GC is discovered. Firstly, we demonstrate that the radiations observed from 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 and these radiations can't be emitted by the black hole model at the Center. However, the dilemma of the black hole model at the GC be naturally solved in our model of super massive object with Magnetic Monopoles (MMs). Three predictions in our model are quantitatively in agreement with observations: It could be an astronomical observational evidence of the existence of MMs and no black hole is at the GC. Besides, making use of both the estimations for the space flux of MMs and nucleon decay catalyzed by MMs (called the RC effect) to obtain the luminosity of celestial objects by the RC effect. In terms of the formula for this RC luminosity we are able to present a unified treatment for various kinds of core collapsed supernovae , SNII, SNIb, SNIc, SLSN (Super Luminous Supernova) and the production mechanism for γ ray burst. The remnant of the supernova explosion is a neutron star rather than a black hole, regardless of the mass of the progenitor of the supernova. Besides, the heat source of the Earth's core as well as the energy source needed for the white dwarf interior is the same mechanism of the energy source as supernova. This unified model can also be used to reasonably explain the possible association of the shot γ ray burst detected by the Fermi γ ray Burst Monitoring Satellite (GBM) with the September 2015 LIGO gravitational wave event GW150914. We propose that the physical mechanism of Hot Big Bang of the Universe is also nucleons decay driven by the magnetic monopoles, similar to the supernova explosion.

Biography

Qiu-he Peng graduated from Department of Astronomy, Nanjing University at 1960 firstly teached at Peking University for 18 years and then is teaching at Nanjing University. He is mainly engaged in nuclear astrophysics, particle astrophysics and galactic astronomy research. In the field of nuclear astrophysics, Peng's researches involve neutron stars (pulsars), 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 and where he has published 225 papers.

qhpeng@nju.edu.cn

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