

## Quantum Entropy of Black Hole with Internal Global Monopole

HAN Yi-Wen,<sup>1</sup> YANG Shu-Zheng,<sup>2</sup> and LIU Wen-Biao<sup>3</sup>

<sup>1</sup> Department of Physics, Daxian Teacher's College, Dazhou 635000, China

<sup>2</sup> Department of Physics, China West Normal University, Nanchong 637002, China

<sup>3</sup> Department of Physics, Beijing Normal University, Beijing 100875, China

(Received: 2004-4-1; Revised: )

**Abstract:** Using the generalized uncertainty relation, the new equation of state density is obtained, and then the entropy of black hole with an internal global monopole is discussed. The divergence that appears in black hole entropy calculation through original brick-wall model is overcome. The result of the direct proportion between black hole entropy and its event horizon area is drawn and given. The result shows that the black hole entropy must be the entropy of quantum state near the event horizon.

PACS: 97.60.Lf, 04.70.Dy, 05.30.Ch

**Key words:** generalized uncertainty relation, state density, quantum entropy, black hole

[\[Full text: PDF\]](#)

Close