

论文

Reissner—Nordström度规场中光子轨道的引力偏转

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摘要:

采用后牛顿近似方法讨论了Reissner—Nordström度规场中光子轨道的引力偏转,给出了电荷量Q对光子偏转角度的影响,当电量为0时所得的一阶、二阶修正项与不带电天体的结论一致,该课题对于研究荷电天体的引力效应以及黑洞的奇异时空性质有重要意义。

关键词: Reissner—Nordström度规 光子 轨道偏转 后牛顿近似

The orbit deflection of the photon in the Reissner-Nordström metric

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Abstract:

The post-Newton approximation method was adopted to discuss the orbit deflection of the photon in the Reissner-Nordström metric field. The effects of the charge Q on the deflection angle were given. When electricity was equal to zero, the amendments of the first order and the second were in accord with the non charged celestial bodies. This topic is very important to the research of gravitational effects of charged bodies and the singular nature of space-time of black holes.

Keywords:

the Reissner-Nordström metric photon the orbit deflection post-Newton approximation

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