

# **Ultrahigh energy particle collisions near the black hole horizon in the strong magnetic field**

Zaslavskii O.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

## **Abstract**

We consider collision between two charged (or charged and neutral) particles near the black hole horizon in the strong magnetic field  $B$ . It is shown that there exists a strip near the horizon within which collision of any two such particles leads to ultrahigh energy in the center-of-mass frame (CM frame). The results apply to generic (not necessarily vacuum) black holes. © 2014 World Scientific Publishing Company.

<http://dx.doi.org/10.1142/S0217732314501120>

---

## **Keywords**

Center-of-mass frame, dirty black holes, magnetic field