

# 10th International Conference on Gravitation and Cosmology: New Horizons and Singularities in Gravity (ICGC 2023)



Contribution ID: 100

Type: Poster

## Role of the Unruh effect in Bremsstrahlung

We demonstrate an equivalence between the Minkowski photon emission rate in the inertial frame for an accelerating charge moving on a Rindler trajectory with additional transverse drift motion and the combined Rindler photon emission and absorption rate of the same charge in the Rindler frame in the presence of the Davies-Unruh thermal bath. We further show that the equivalence can be extended for the Bremsstrahlung emitted by the same charge as calculated using the machinery of classical electrodynamics. We then generalise the equivalence for the case of accelerating charges moving on a Rindler trajectory with additional arbitrary transverse motion. We discuss the related issues and experimental implications.

Reference :

K. Paithankar and S. Kolekar, Phys. Rev. D 101, 065012 (2020).

### Email

kajol.paithankar@iiap.res.in

### Affiliation

Indian Institute of Astrophysics, Bengaluru, India

**Author:** PAITHANKAR, Kajol (Indian Institute of Astrophysics, Bengaluru, India)

**Co-author:** KOLEKAR, Sanved (Indian Institute of Astrophysics, Bengaluru, India)

**Presenter:** PAITHANKAR, Kajol (Indian Institute of Astrophysics, Bengaluru, India)

**Session Classification:** Classical & Quantum Gravity

**Track Classification:** Classical & Quantum Gravity