Contribution ID: **155** Type: **Talk in a parallel session**

Electromagnetic field of a charged particle, asymptotically approaching Schwarzschild black hole

Friday, 12 July 2024 17:30 (20 minutes)

The electromagnetic field of a particle moving in the vicinity of a Schwarzschild black hole is calculated. The energy emitted by the particle is calculated using the multipole expansion approach. The particle is considered as it approaches the event horizon of the black hole. The electromagnetic field of this particle is calculated in the limit of the event horizon approach. It is shown that the electromagnetic field in this case tends to be spherically symmetric. The astrophysical applications of the results obtained are discussed.

Primary authors: Dr GARKUN, Alexander (Institute of Applied Physics, National Academy of Sciences of Belarus, 16 Academic Str, 220072 Minsk, Belarus); Prof. GORBATSIEVICH, Alexander (Belarusian State University; Institute of Applied Physics, National Academy of Sciences of Belarus, 16 Academic Str, 220072 Minsk, Belarus); Prof. VERESHCHAGIN, Gregory (ICRANet, Piazza della Repubblica, 10, 65122 Pescara, Italy; ICRA, Dipartimento di Fisica, Sapienza Universit\'a di Roma, Piazzale Aldo Moro 5, I-00185 Rome, Italy; INAF — IAPS, Via del Fosso del Cavaliere, 100, 00133 Rome, Italy); KOMAROV, Stanislav (Belarusian State University)

Presenter: KOMAROV, Stanislav (Belarusian State University)

Session Classification: Spectral and temporal properties of accretion flows and jets around compact objects and the theoretical models

Track Classification: Accretion (AC): Spectral and temporal properties of accretion flows and jets around compact objects and the theoretical models