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## **Jets induced by chiral currents in the magnetosphere of a rotating black hole.**

We study the possible generation of relativistic jets induced by a chiral imbalance in a strongly magnetized electron-positron plasma in magnetospheres of spinning black holes. Stationary, axisymmetric, force-free magnetospheres Kerr black holes are analyzed. We explore the chiral symmetry breaking induced by longitudinal photons as a possible condition for the creation of relativistic jets. We report an electric current, and discuss its structure in terms of the scattering and creation of electron-positron pairs resulting from the decay of the longitudinal photons in a magnetized medium. The present results are based on the quantum field theory formalism at finite temperature and density.

**Author:** GARCÍA REYNALDO, Eduardo

**Presenter:** GARCÍA REYNALDO, Eduardo