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On the role of QED processes in astrophysics of compact objects

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In this talk I will review the role of QED effects in magnetospheres of astrophysical compact objects, black holes and neutron stars. I will focus on the dynamics of electron-positron pair discharges in large unscreened electric fields, as well as on magnetic reconnection with strong radiative cooling and pair production. Finally, I will highlight observable emission signatures of these fundamental plasma processes.

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