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The Structure of Magnetically Dominated Black Hole Magnetospheres KEVIN THOELECKE, Montana State University, MASAAKI TAKAHASHI, Aichi University of Education, SACHIKO TSURUTA, Montana State University — In the stationary and axisymmetric limit, ideal black hole magnetospheres can be largely described by the distributions of four field-aligned conserved quantities: field line angular velocity, energy flux, angular momentum flux, and particle flux. In this talk I will present how different distributions of those conserved quantities can modify the structure of ingoing energy-extracting black hole magnetospheres in the magnetically dominated limit. Distributions that might be of more astrophysical interest will be presented, along with a discussion of the relaxation of the force-free approximation and the explicit consideration of plasma properties.

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