Accretion Disks and Cosmic Rays KEN FOWLER, UC-Berkeley —
We model accretion disks as Faraday disks with current and mass flows perpendicular
to 2D mean field flux surfaces. We model jets produced by accretion disks as weakly-
unstable current flows. We model cosmic ray acceleration arising from jet kink modes
producing a runaway ion beam that finally accelerates itself by cyclotron resonance.
All of these processes can be unified by an Ohm's Law in which Spitzer resistivity is
replaced by a generalized hyper-resisitivity, ultimately yielding several predictions
in rough agreement with observations.

Hui Li
Los Alamos Natl Lab