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abstract	Recent advances in black hole astrophysics, particularly the first visual evidence of a supermassive black hole at the center of the galaxy M87 by the Event Horizon Telescope (EHT), and the detection of an orbiting "hot spot" nearby the event horizon of Sgr A* in the Galactic center by the Gravity Collaboration, require the development of novel numerical methods to understand the underlying plasma microphysics. Non-thermal emission related to such hot spots is conjectured to originate from plasmoids that form due to magnetic reconnection in thin current layers in the innermost accretion zone. Resistivity plays a crucial role in current sheet formation, magnetic reconnection, and plasmoid growth in black hole accretion disks and jets. We included resistivity in the three-dimensional general-relativistic magnetohydrodynamics (GRMHD) code BHAC and present the implementation of an Implicit-Explicit scheme to treat the stiff resistive source terms of the GRMHD equations. The algorithm is tested in combination with adaptive mesh refinement to resolve the resistive scales and a constrained transport method to keep the magnetic field solenoidal. Several novel methods for primitive variable recovery, a key part in relativistic magnetohydrodynamics codes, are presented and compared for accuracy, robustness, and efficiency. We propose a new inversion strategy that allows for resistive-GRMHD simulations of low gas-to-magnetic pressure ratio and highly magnetized regimes as applicable for black hole accretion disks, jets, and neutron star magnetospheres. We apply the new scheme to study the effect of resistivity on accreting black holes, accounting for dissipative effects as reconnection.	abstract	Recent advances in black hole astrophysics, particularly the first visual evidence of a supermassive black hole at the center of the galaxy M87 by the Event Horizon Telescope, and the detection of an orbiting "hot spot" nearby the event horizon of Sgr A* in the Galactic center by the Gravity Collaboration, require the development of novel numerical methods to understand the underlying plasma microphysics. Non-thermal emission related to such hot spots is conjectured to originate from plasmoids that form due to magnetic reconnection in thin current layers in the innermost accretion zone. Resistivity plays a crucial role in current sheet formation, magnetic reconnection, and plasmoid growth in black hole accretion disks and jets. We included resistivity in the three-dimensional general-relativistic magnetohydrodynamics (GRMHD) code BHAC and present the implementation of an implicitâ€“explicit scheme to treat the stiff resistive source terms of the GRMHD equations. The algorithm is tested in combination with adaptive mesh refinement to resolve the resistive scales and a constrained transport method to keep the magnetic field solenoidal. Several novel methods for primitive-variable recovery, a key part in relativistic magnetohydrodynamics codes, are presented and compared for accuracy, robustness, and efficiency. We propose a new inversion strategy that allows for resistive-GRMHD simulations of low gas-to-magnetic pressure ratio and highly magnetized regimes as applicable for black hole accretion disks, jets, and neutron-star magnetospheres. We apply the new scheme to study the effect of resistivity on accreting black holes, accounting for dissipative effects as reconnection		
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