

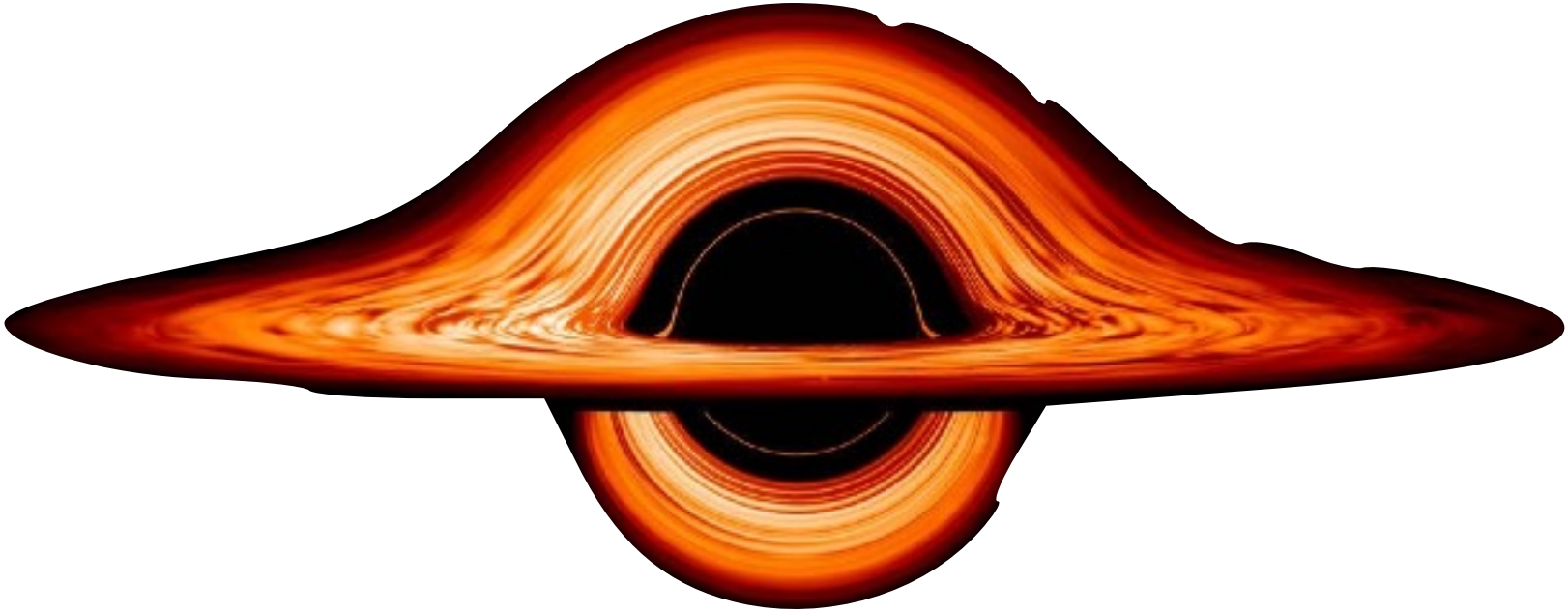




**How can we make global simulations more complete?**









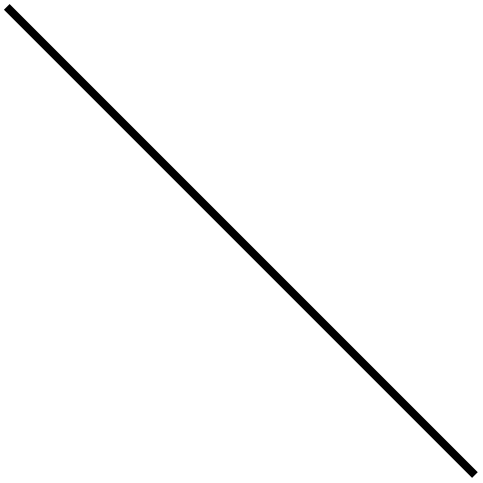


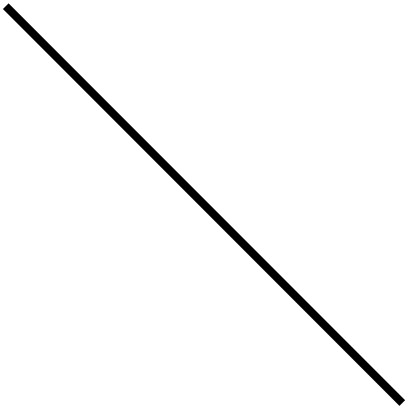












































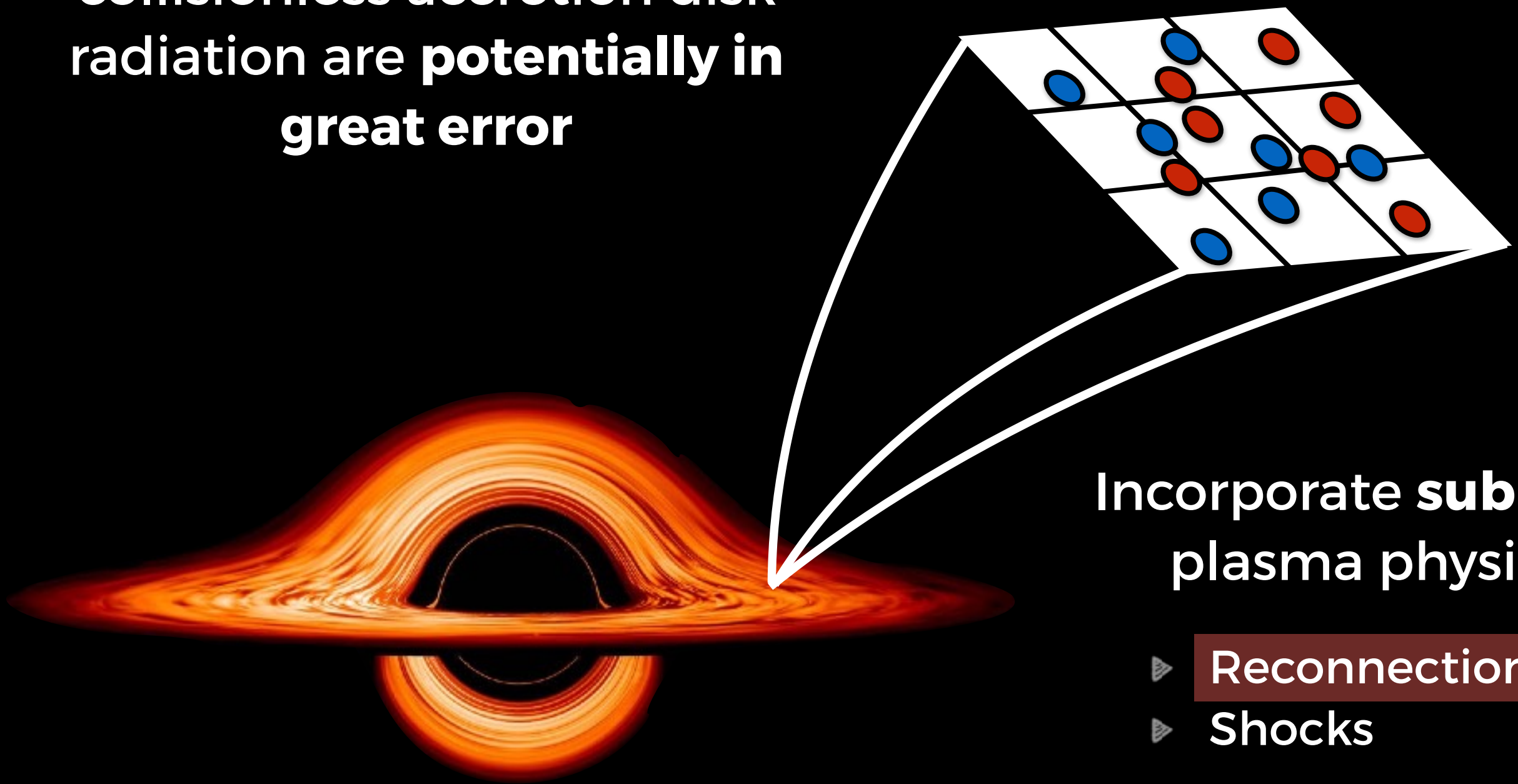






# How can we make global simulations more complete?

Global fluid simulations of collisionless accretion disk radiation are **potentially in great error**



Incorporate **sub-grid** plasma physics

- ▶ Reconnection
- ▶ Shocks



# Reconnection can energize particles

- ▶ Rearrangement of magnetic field lines
- ▶ Magnetic energy → particle kinetic energy

