

Leveraging physics-informed AI computing for simulating the transport of fusion plasmas – Jaemin Seo

Motivations

- Conventional tokamak transport simulation schemes using FDM has low synergy with parallel computing, mesh-induced numerical instability, and low versatility.
- Let's try physics-informed neural network (PINN) for transport simulation.

Results

- Transport simulation with PINN shows potentials of computational efficiency, numerical stability, and scientific versatility.

Challenges

- It still needs future works of dealing with randomness and testing more complicated profiles like H-mode plasmas.

