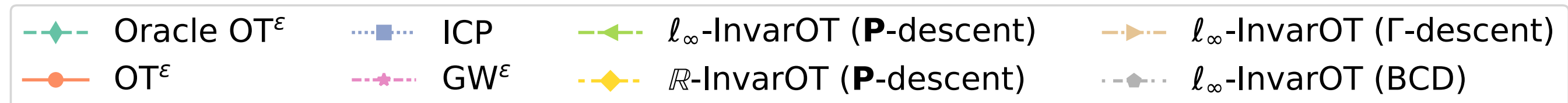
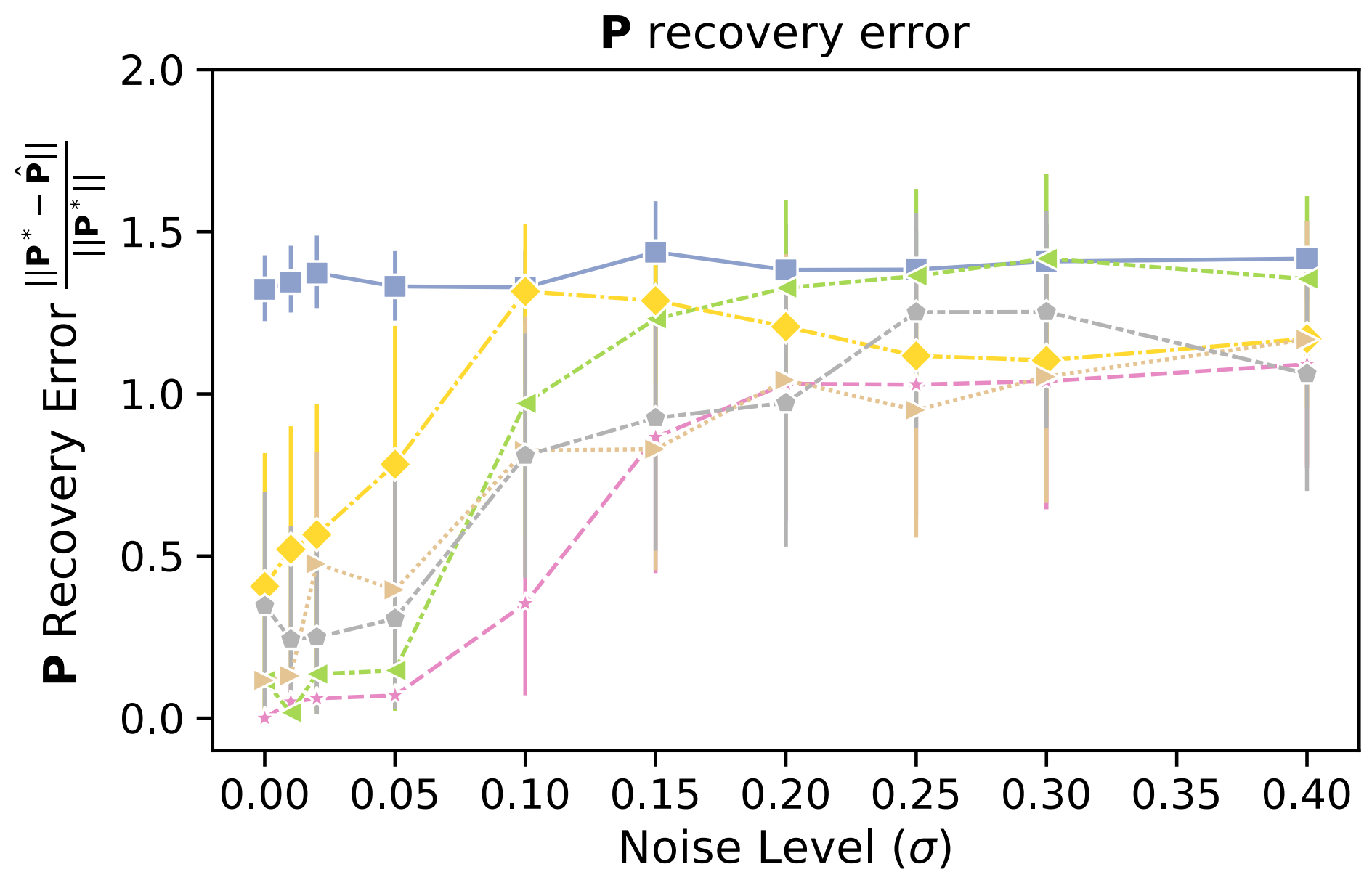
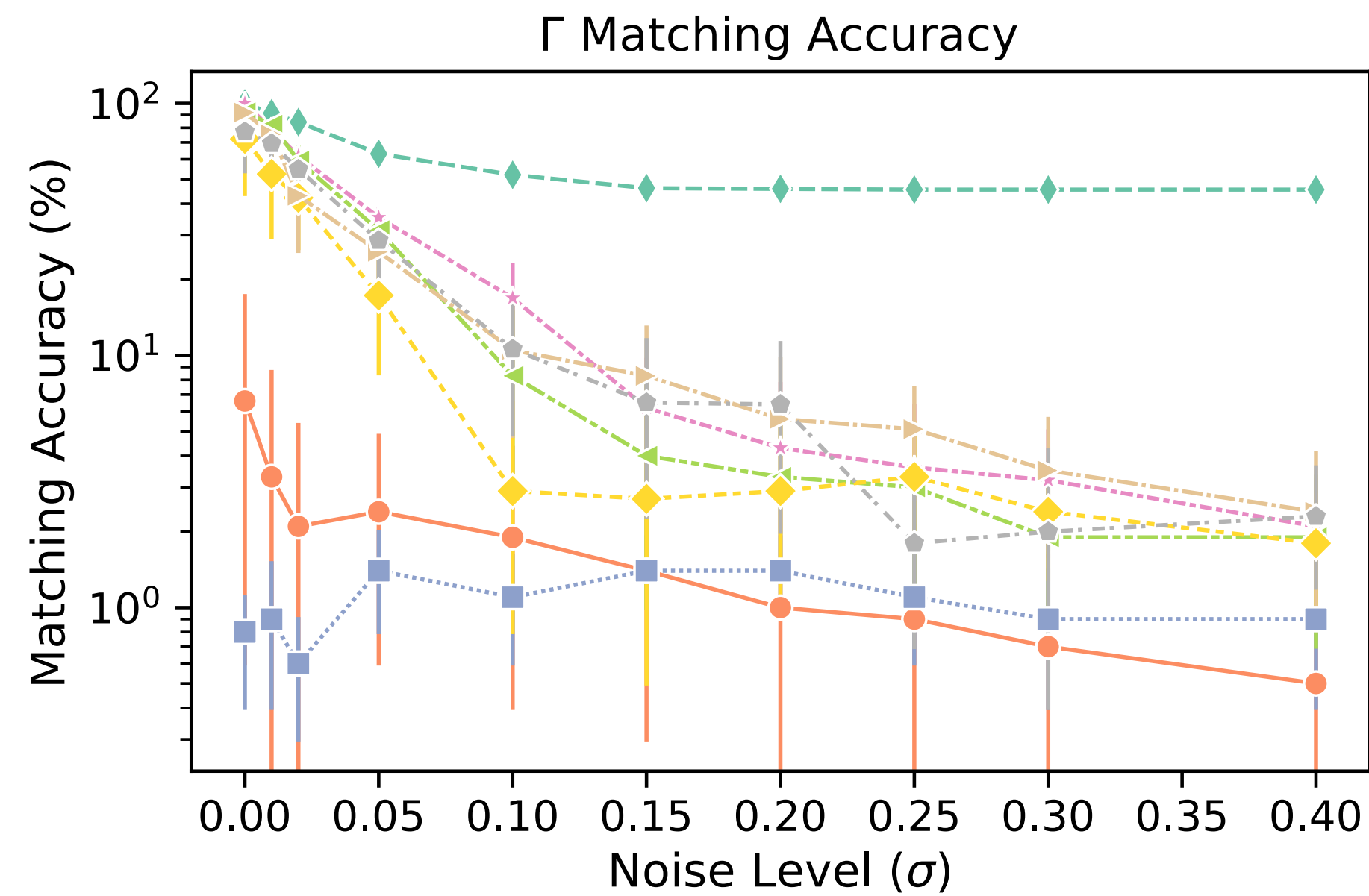


# Invariant OT

## optimization method comparison



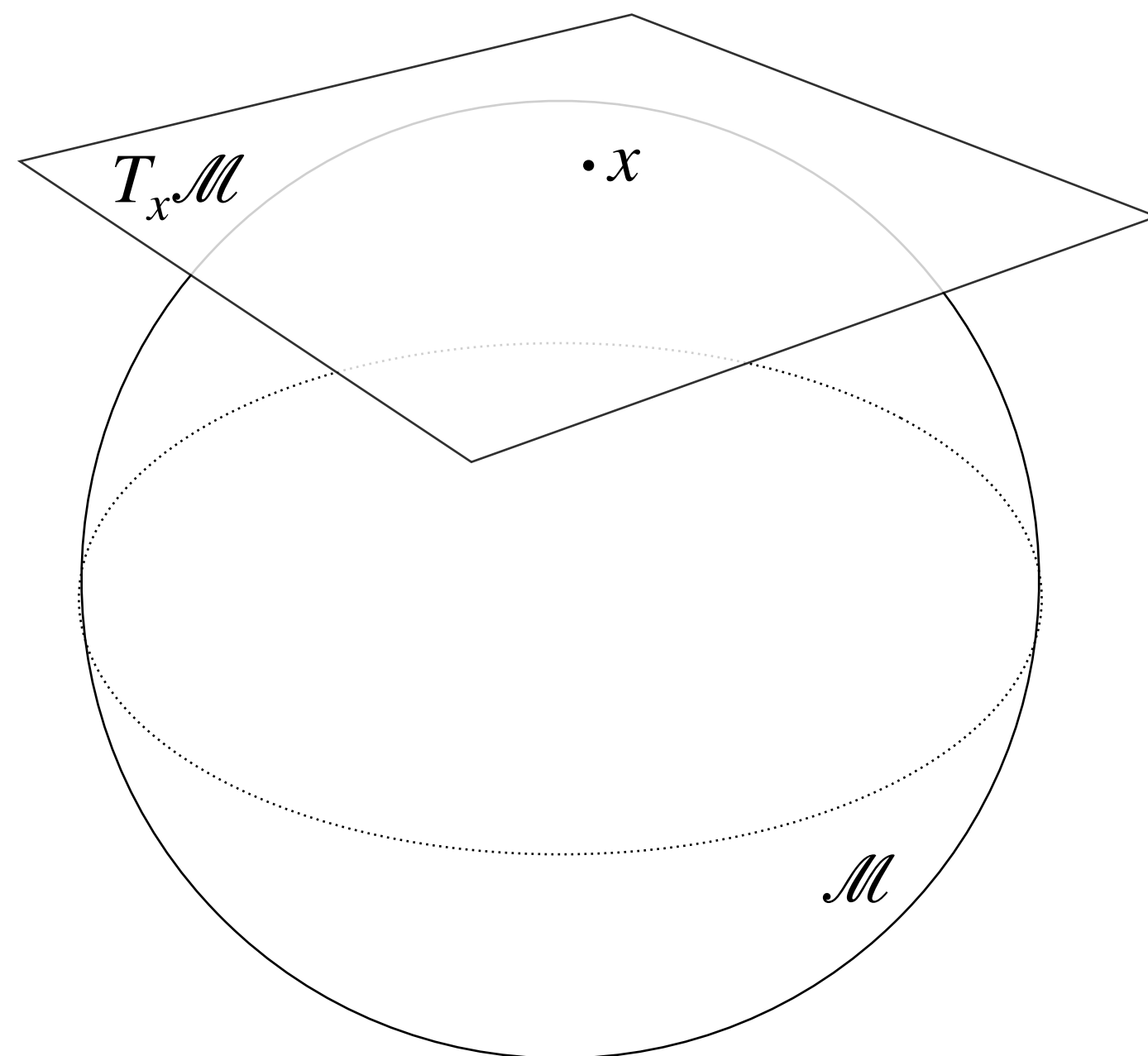
# Hyperbolic Neural Networks

## two models

Hyperbolic Linear Layers

[Ganea et al. 2018]

$$f(\mathbf{x}; \mathbf{W}, \mathbf{b}) \triangleq (\mathbf{W} \otimes \mathbf{x}) \oplus \mathbf{b} = \exp_0(\mathbf{W} \log_0(\mathbf{x})) \oplus \mathbf{b}$$



Möbius Layers

[AM, Mroueh, Jaakkola. 2018]

$$f(\mathbf{x}) = \mathbf{P}(\mathbf{v} \oplus \mathbf{x}) \quad \mathbf{P} \in \text{SO}(d), \mathbf{v} \in \mathbb{D}^d$$

