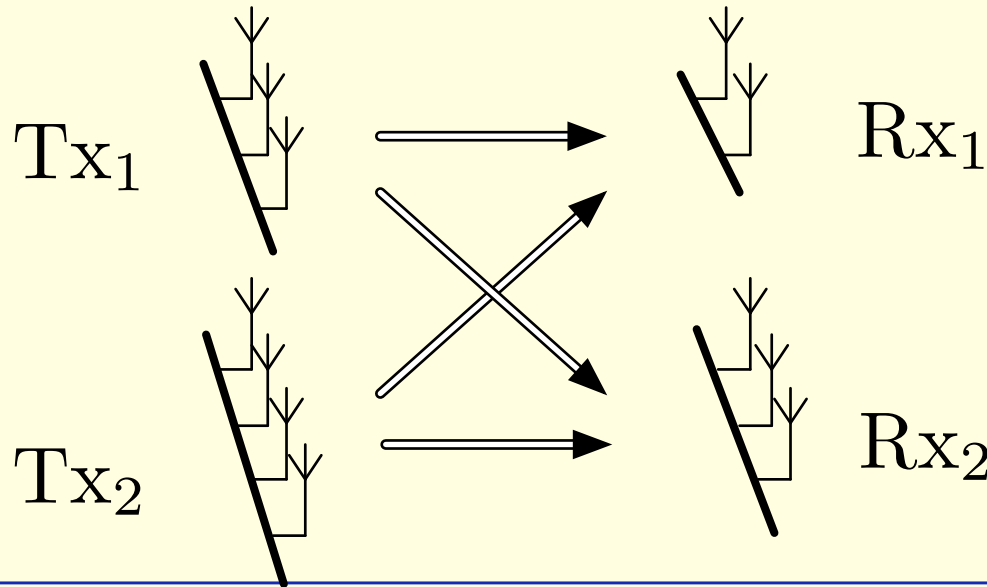


Isotropic MIMO Interference Channels without CSIT: The Loss of Degrees of Freedom

Yan Zhu, Northwestern University (Advisor: Prof. Dongning Guo)



Problem Statement and Motivation

- Motivation: The key assumption behinds most results on interference channel is that the full CSI is available at transmitters as well as receivers. Little is known if CSI is known at receiver only.
- Problem: We investigate the degrees of freedom of isotropic MIMO interference channel without CSIT.

Main Result

- An outer bound for degrees of freedom is obtained.
- The optimality of the outer bound is studied.
- We observe the loss of degrees of freedom due to the lack of CSIT in many circumstances.

Conclusions and Future Work

- Conclusions: In many situations, the capacity loss due to the lack of the CSIT is significant.
- Future work: Extension to generalized degrees of freedom.