**Notes on MIMO + AN:**

**Useful references to read**

**A survey on multiple antenna techniques for physical layer security**

* P4, table with different scenarios for CSI acquisition at both end. We investigate full CSI @ legitimate RX and statistical CSI @ eavesdropper.
* AN :
  + Short distance interception: when eavesdropper close to TX 🡪 one of the AN injection motivation.
  + 93, 94: explain concept of AN injection for guaranteeing secrecy.
  + 99 : robust beamforming scheme when partial CSI @B and @E.
  + 100/101: secure MISO/MIMO when perfect CSI @B and partial @E
  + 102/103: secrecy performance analysis in SF and FF environments when multiple antennas and AN injection. 103: waterfilling power allocation strategy

SF: outage probability seems to be more appropriate

FF: ergodic SR seems to be more appropriate.

* + 104: Analysis of performance when imperfect CSI of legitimate RX due to limited feedback 🡪 derivation of power allocation technique for signal + AN when limited amount of feedback
  + 107/108: AN sent by the legitimate RX (fig 3b)
  + 109: AN sent by TX and Bob (fig 3c)

**Classifications and Applications of Physical Layer Security Techniques for Confidentiality: A Comprehensive survey**

* FD + AN:
  + 136: MIMO OFDM system + AN injection. AN cancelled out at RX in the FD domain.
* SD + AN
  + 127: multiple antennas AN when Eve CSI not known and Eve knows Hb (FDD systems). In order the scheme to perform, we need: Nt > Nb and Nt > Ne
  + 143 and 158: Orthogobal blinding achieves >0 secrecy in full MIMO systems.
  + 144: AN + spatial beamforming in MISO system in the presence of multiple eavesdropper and not wiretap CSI known
  + 146 and 159: randomized beamforming is presented: time varying multiplicative noise to prevent eavesdropping
  + 160: Artificial Fast Fading
* SD + TD + AN
  + 147/148: Spatial + temporal dimensions used to inject AN in MISO/MOM-ME OFDM scheme