Air-Ground Telemetry

Channel Impairments:
- Air vehicle maneuvering masks Tx antenna obstructs transmission
- Ground bounce creates multipath interference

Solution
- Transmit from two antennas

New Problem
- Dual-antenna transmission leads to interference nulls
Solution: 
Orthogonal Space-Time Codes

Symbol Time #1

\( S_1 \) \( \rightarrow \) \( S_2 \) 
\( \rightarrow \) 
\( \rightarrow \) 
\( \rightarrow \) 

Symbol Time #2

\( S_2^* \) \( \rightarrow \) 
\( \rightarrow \) 
\( \rightarrow \) 
\( \rightarrow \)

Coding removes effect of two-antenna interference