1145-81-1229   **Travis B Russell*** (`travis.russell@usma.edu`). *Quantum correlation sets and quantum communication.* Preliminary report.

A quantum correlation is a kind of probability distribution that can be achieved with quantum technology but cannot be achieved by classical probabilistic means. The study of quantum correlations goes back to debates between Albert Einstein and his contemporaries during the formative years of quantum mechanics, yet there are many questions about quantum correlations that remain unanswered to this day. In this talk, we introduce the idea of quantum correlations for a general audience and discuss some connections with positive semidefinite programming, operator algebras and cybersecurity. (Received September 20, 2018)