1116-VI-2544 **Chi-Kwong Li*** (ckli@wm.edu), Department of Mathematics, Jones Hall, Williamsburg, VA 23187. *Some optimization problems in quantum information science.*

We describe solutions of some optimization problems in quantum information science. In particular, for given quantum states ρ_1, ρ_2, and a scalar function f such as the trace norm distance, fidelity, etc, we determine the maximum and minimum of $f(\rho_1, \Phi(\rho_2))$, where Φ ranges through all unital quantum channels. We also identify Φ so that $\Phi(\rho_2)$ yields the optimal value. (Received September 22, 2015)