

EE491 Homework 8

Due October 30 2020

Let us reconsider the first three power systems in homework 4. We will assume DC Power-flow method and let us apply linear state estimation to estimate the system state given the measurements as specified.

- a) System 1) $P_{21} = 0.25$, $P_{23} = 0.5$, and $P_{13} = 0.1$.
- b) System 1) $P_{21} = 0.2$, $P_{23} = 0.55$, and $P_{13} = 0.12$.
- c) System 2) $P_{12} = 0.5$, $P_{13} = 0.6$, $P_{32} = 0.22$, and $P_{23} = -0.2$.
- d) System 2) $P_{21} = -0.45$, $P_{31} = -0.55$, $P_{32} = 0.2$, and $P_{23} = -0.22$.
- e) System 3) $P_{21} = 0.4$, $P_{13} = 0.2$, $P_{31} = -0.17$, $P_{14} = 0.34$, $P_{23} = 0.6$, $P_{32} = -0.65$,
and $P_{34} = 0.2$.