

## Exercise Session 6

1. Verify the calculations on slide 6 (A Linear Quadratic Game) on Lecture 6 that uses the ARE to rewrite the loss function.
2. [Zhou] Verify the calculations in Example 14.3 in [Zhou] for  $a = -1$  using any  $H_\infty$  toolbox.
3. [Zhou] 14.5 (model given in [Zhou] 13.5).
4. [Zhou] 14.6.
5. Go through the calculations of the  $H_\infty$  optimal controller for different values of the parameter  $\rho$  in the internal report <https://lucris.lub.lu.se/ws/files/4455844/8775142.pdf> using the Riccati equation approach.