Summer 2020 Prof. Thomas Slawig Dr. Joscha Reimer

Optimization and Data Science Exam exercise 5

Apply the first and second order optimality condition based on Lagrange multipliers and determine all solutions of the problem

$$\min_{x \in \mathbb{R}^2} -x_1 x_2 \quad \text{ subject to } \quad (x_1 + x_2)^2 \le 2.$$