Norwegian University of Science and Technology
Department of Mathematical Sciences

TMA4310 Optimal control of PDEs Spring 2015

Exercise set 12

For convex optimization problems, such as the ones we have looked at in the linear-quadratic control case, the first order necessary optimality conditions are also sufficient. For non-convex optimal control problems and optimization problems one has to take a step further and look at the second order derivatives. We only take a quick glimpse at the complications that can arise in a functional space setting, and then move on to the numerical methods.

Reading:

Sections 4.9, 4.10.1-4.10.2, 4.11.

Recommended exercises:

1. Exercises 4.9, 4.10 in [Tr].