1159-49-181 **M K RIAHI*** (mohamed.riahi@ku.ac.ae), Abu Dhabi. *Time split control: A divide and conquer approach foroptimal control with PDE constraints.*

We proposed in [3] a hybrid Newton-Gradient approach and consider parallelization of the control through an on-off time-windowing decomposition. We show that our algorithm significantly improves the computational time compared with recognized methods. Convergence analysis of the new optimal control algorithm is provided for an arbitrary choice of partition. Numerical experiments are presented to illustrate the efficiency and the rapid convergence of the method. This work is currently subject of extension to further investigate the adaptive time windowing and coupling with parareal in time algorithm such as in [2]. (Received August 04, 2020)