Speaker
Daniel De Wolf

Title
"Optimal Design and Dimensioning of Hydrogen Transmission Pipeline Network"

Abstract
This work considers the problems of the optimal design and the optimal dimensioning of an hydrogen transmission network. We define a solution method that simultaneously looks for the least cost topology of the network and for the optimal capacity of each pipe. These two problems where generally solved separately these last years. The application to the case of development of new hydrogen pipeline networks in France has been conducted with an economic comparison with another transportation mode, namely the transport by trucks. We also consider the dynamic of the network investment, namely we look also for the best year to increase the capacity of the transmission network.

Keywords: Hydrogen, graph, optimal design, minimal spanning tree, non linear optimization.