

Multi-criteria Traffic Network Equilibrium Problem with Capacity Constraints

Monday, July 9, 2018 2:00 PM (30 minutes)

This talk is aimed to present a single-product multi-criteria traffic network with capacity constraints. We construct an optimization problem, whose optimal solutions are exactly equilibria of the model. Since the objective function of this problem is neither continuous nor convex, we propose a method to smoothen it and use optimization tools to find optimal solutions of smooth optimization problems. Then, we establish conditions, under which every equilibrium flow can be reached by these optimal solutions via a limiting process. And we also develop a method based on a modified Frank-Wolfe's gradient algorithm in order to obtain a subset of vector equilibrium flows, which are located within a given distance from the chosen grid of initial feasible flows. Numerical examples are reported to illustrate our algorithms and their applicability.

Primary author: Dr TRUONG, Thi Thanh Phuong (Qui Nhon University)

Presenter: Dr TRUONG, Thi Thanh Phuong (Qui Nhon University)