Infinite or finite-dimensional complementarity reformulation for the departure-time choice equilibrium problem with discrete multiple bottlenecks

Takashi Akamatsu (Tohoku Univerisity)
Kentaro Wada (The University of Tokyo)
Shunsuke Hayashi (Tohoku University)* speaker

Abstract

In this study, we provide a transparent approach to the analysis of dynamic user equilibrium and clarifies the properties of a departure-time choice equilibrium of a corridor problem involving discrete multiple bottlenecks. We reformulate the equilibrium problem as the linear/nonlinear complementarity problems by using the Lagrangian-like coordinate system instead of the existing Eulerian coordinate system. Then we analyze the existence and uniqueness of the equilibria. We also report some numerical observations.