

MATHEMATICS RESEARCH SEMINAR

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A TCHEBYCHEFF METRIC APPROACH TO BI-ATTRIBUTE NETWORK FLOWS

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ABSTRACT: The traditional shortest path problem concerns itself with minimizing over a single quantity, typically time or distance. However, it would be more reasonable to imagine that the user may want to minimize more than one concern. In this talk, we will consider network flows where there are two weights associated with each arc. For example, we might be interested in finding a route with not only the shortest distance but also the shortest time. Of course, a single path may not satisfy this need. In that case, Tchebycheff metrics are used to uncover all nondominated (or Pareto) paths.