Robust lot sizing problem under adversarial demand uncertainty

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Abstract. We consider a two-stage robust lot-sizing problem in a network where each node is facing an uncertain demand that is realized in the second stage. In the first stage the decision maker needs to decide the inventory levels for each node while in the second stage he can make recourse transportation decisions after observing the uncertain demands. We model uncertainty in the second stage using a budget of uncertainty set and present algorithms with provable guarantees.

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