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Application of the Inoperability Input–Output Model (IIM) for Systemic Risk Assessment and Management of Interdependent Infrastructures

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ABSTRACT

Our modern era is characterized by a large-scale web of interconnected and interdependent economic and infrastructure systems, coupled with threats of terrorism. This paper demonstrates the value of introducing interdependency analysis into various phases of risk assessment and management through application of the Inoperability Input–Output Model (IIM). The IIM estimates the cascading inoperability and economic losses that result from interdependencies within large-scale economic and infrastructure systems. Based on real data and the Nobel Prize-winning W. Leontief economic model, the IIM is a computationally efficient,

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