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## Adding Geographical Embedding to AS Topology Generation

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To study large-scale effects on the Internet various models have been introduced to generate Internet-like autonomous system (AS) topologies.

The models for large-scale AS topologies have been focused on replicating structural graph properties.

One of the most promising models is the Positive Feedback Model (PFP).

This model, however, lack the ability to generate routing paths and realistic latency.

We present a new model for the Internet AS structure modeling not only AS peering but also the locations of AS peering points. Our new model allows calculating paths for the connections between end hosts and to infer the latency from these paths. To build this model we introduce a new notion for the generation of AS topologies: the compactness of an AS.

We introduce an algorithm based on the PFP algorithm which generates instances for our model.

Verifying the generated model instances shows that the resulting latencies as well as the geographic properties match measured data sets.