Berlin Mathematics Research Center
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MATH+ Spotlight Talk

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Data Transmission in Contact-Based Models

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Abstract:

Understanding the spread of data in complex networks is becoming more and more vital in our interconnected, modern world. Classical models -- think of *first passage percolation* -- assume that two agents exchange information after some random *waiting time*. This seems artificial as our actual daily lives are structured. Instead, we consider the *first contact percolation* model in which agents exchange data *when they meet*. This transfer happens at a regular basis, e.g. once per day. We show a variety of results in this setting, such as shape theorems and comparisons in the spreading speed between different models.