

Abstract Submitted
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Robustness of Network Measures to Link Errors JOHN PLATIG,
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searchers studying biological networks use a variety of measures to identify “im-
portant” nodes in their networks. However, the robustness of these measures in
the presence of link inaccuracies stemming from noisy data has not been well char-
acterized. Here we present two simple models of false and missing links and their
effect on different commonly used centrality measures, focusing particularly on de-
gree centrality, betweenness centrality, and dynamical importance. We show that,
compared to degree centrality, betweenness centrality and dynamical importance
are much more robust in the face of noise if the false positives are randomly distributed.
When the noise has more structure, the differences in the robustness levels of the
various metrics can change dramatically.

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