1145-68-547 **Owen Levin*** (levin453@umn.edu). *Approximation Algorithms for Network Connectivity.* Preliminary report.

The problem discussed is to connect* a set of initially disconnected* points as quickly as possible. Assuming all points move at the same speed, this amounts to minimizing the maximum distance traveled. We give two new algorithms that outperform the state-of-the-art from the literature and a number of results bounding their optimality.

Let $d(p, q)$ denote the Euclidean distance between $p, q \in \mathbb{R}^2$. Then given P, a set of n distinct points in $\mathbb{R}^2$, define the r-disk graph, $G(P, r)$ to be the weighted graph with vertex set P and edges between all $p, q \in P$ with $d(p, q) \leq r$ with weights equal to $d(p, q)$.

* We call P *connected* when $G(P, 1)$ is a connected graph, and *disconnected* otherwise. (Received September 09, 2018)