Coverage and Capacity Planning for Cellular Networks

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Abstract: Given a traffic map, a huge number of potential base station locations, and a list of configuration options, how to find a network setup that covers as much traffic as possible? The technology might be either GSM or UMTS. It is likely that there is already an existing network, i.e. changes will induce cost. Configuration options include, for example, sectorisation, antenna type, azimuth, and tilt. We report on our results in solving real-world large scale problem instances.

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