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Siting Mobile Phone Base Stations: a GRASS application on location selection

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Because of the basic requirement to offer good communication quality, the mobile phone system providers
are constantly siting base stations as needed in order to provide enough signal coverage and strength.

This paper first discusses those issues related to siting mobile phone base stations, such as the location, the
quantity, the radio signal coverage, the channel capacity of each base station, etc. It then uses GRASS,
combined with location and allocation theory, to analyze the current issues of siting mobile phone base
stations and develop a heuristic solution based on the line-of-sight analysis.

Finally a small town in Taiwan is used as the study area to examine the effectiveness of the developed
solution.

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