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A Prize Collecting Steiner Tree Approach to Least Cost Evaluation of Grid and Off-grid Electrification Systems

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Abstract

1
2 The lack of access to electricity in developing countries necessitates spatial
3 electricity planning for guiding sustainable electrification projects that evaluate
4 the costs of centralized systems vis-a-vis decentralized systems. Heuristic ap-
5 proaches have been widely used in such electrification problems to find feasible,
6 cost effective solutions; however, most of the time global optimality of these so-
7 lutions is not guaranteed. Our paper through its modeling approach provides a
8 new methodology to find the least cost solution to this electrification problem.

9 We model the spatial network planning problem as Prize Collecting Steiner

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