The collection of the main issues for wind farm optimisation in complex terrain

The paper aims at establishing the collection of the main issues for wind farm optimisation in complex terrain. To make wind farm cost effective, this paper briefly analyses the main factors influencing wind farm design in complex terrain and sets up a series of mathematical model that includes micro-siting, collector circuits, access roads design for optimization problems. The paper relies on the existing one year wind data in the wind farm area and uses genetic algorithm to optimize the micro-siting problem. After optimization of the turbine layout, single-source shortest path algorithm and minimum spanning tree algorithm are used to optimize collector circuits and access roads. The obtained results can provide important guidance for wind farms construction.

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