**عنوان مقاله:**

Designing a resilient location-allocation model for cell site networks with regional coverage enhancement approach using robust programming–lagrangian relaxation

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**خلاصه مقاله:**

The development of cell sites as part of the infrastructure of telecommunication technology is playing a unique role in emerging businesses at present. Natural disasters and crises can disrupt communication equipment and create severe challenges in service provisions, especially health and security, by damaging sites. This might lead to traffic congestion in certain network sections, causing chaos and social crises and increasing the commissioning and equipping costs of backup sites for operators. This study developed an integrated location–coverage–allocation model to improve sustainability through maximum coverage, enhanced flexibility, and minimized overhead expense by determining the position of backup sites and mitigating environmental pollution resulting from the establishment of sites. The stochastic robust optimization model was employed to control the effect of nonparametric uncertainty, while acceptable solutions were generated using the Lagrangian relaxation to address complicated model constraints.

**کلمات کلیدی:**
Location, Coverage, robust, Lagrangian Relaxation, Resilient

**لینک ثابت مقاله در پایگاه سیویلیکا:**

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