

Building retrofitting

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Asadi et al. (2012) propose multicriteria optimization for building retrofitting.

Questions

1. Explain the optimization problem. Why is this a multiobjective problem? Which methods have been used to solve such problems? Describe at least two and explain their advantages and shortcomings based on the reported results.
2. Construct an (artificial) building retrofitting optimization problem. Combine the criteria into a single one using different weights. Solve the problem and explain the results obtained for different weights.

References

Asadi, E., da Silva, M. G., Antunes, C. H., and Dias, L. (2012). Multi-objective optimization for building retrofit strategies: A model and an application. *Energy and Buildings*, 44:81–87.