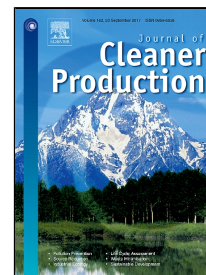


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Improved Remediation Processes through Cost-effective Estimation of Soil Properties from Surface Measurements

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1 Improved Remediation Processes through Cost-effective
2 Estimation of Soil Properties from Surface Measurements

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15
16 **Abstract**

17 A wide range of technologies is presently available for the remediation of contaminated soils.
18 The optimal selection depends on a number of soil characteristics. However, if the depth of the
19 contaminated layer is considerable, the direct measurement of these properties can be costly and
20 sometimes outright infeasible. In this paper, a method originally developed for the early detection
21 of leaks in landfill liners has been properly modified to accommodate the estimation of soil
22 characteristics. In particular, while the soil properties were considered known parameters in the
23 previous model, they are now present as non-linear parameters and their estimation constitutes
24 the main goal of the article. The resulting algorithm consists in the optimization of a suitable

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