Fuzzy group decision-making
for the remediation of uranium mill tailings.

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Abstract: We propose an approach for evaluating remediation alternatives at the Zapadnoe uranium mill tailings site in a group decision-making context. The approach relies on both interval values and a linguistic term scale to valuate the alternative impacts and ordinal information about the relative importance of criteria. Monte Carlo simulation techniques are used to exploit imprecision to compute a fuzzy dominance matrix for each DM, taking into account the corresponding ordinal information about weights. Then a fuzzy dominance measuring method is used to derive the corresponding rankings of remediation alternatives. Finally, they are aggregated taking into account their relative importance to reach a consensus ranking.