

## Smaa-Gaia: A Complementary Tool of the Smaa-Promethee Method

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**Abstract :** PROMETHEE and GAIA are well-known Multiple Criteria Decision Aid methods. Given an evaluation table and preference parameters they allow to rank the alternatives, to visualize the problem, to perform sensitivity and robustness analysis, etc. Unfortunately, it is often hard for the Decision Maker (DM) to estimate the precise values of these parameters. Therefore an alternative option is to give ranges of potential values in order to apply Stochastic Multicriteria Acceptability Analysis. This has been recently studied in the context of the SMAA-PROMETHEE method. The aim of this contribution is to propose an SMAA extension of GAIA. We show how this tool can be useful and provide complementary information to SMAA-PROMETHEE. This is illustrated on a pedagogical example.

**Keywords :** multiple criteria decision making, PROMETHEE, GAIA, SMAA

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