Qeios

Peer Review

Review of: "Local and Global Optima: Sheaves and Polynomial Approximations"

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In this paper, the author analyzes how the global optimal solution of an agent's preferences can be reconstructed from the solutions found for local problems. Instead of using an evolutionary approach, the author seeks to characterize the process by which an agent may approximate the solution of the global optimization problem from a set of local solutions (each for a different problem). An abstract characterization of the global solution is provided via sheaf-theoretic analysis, and polynomial approximations are obtained when only a few local instances are available.

The paper is well-written, and the proofs are correct. The paper will provide a theoretical contribution to economic and approximation theory. Correct the full stop (.) on page 10, line 2. In view of the above observations, I recommend the paper for publication in Qeios.

Declarations

Potential competing interests: No potential competing interests to declare.

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