Optimality Conditions for Solutions of Set-valued Equilibrium Problems

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Abstract: We present a new approach to the study of a set-valued equilibrium problem (for short, SEP) through the study of a set-valued optimization problem with a geometric constraint (for short, SOP) based on an equivalence between solutions of these problems. Formulated here necessary conditions for Pareto-type efficient solutions and necessary/sufficient conditions for weak Pareto-type efficient solutions of SEP and SOP are expressed in terms of the Ioffe approximate coderivative and normal cone in the Banach space setting, and in terms of the Mordukhovich coderivative and normal cone in the Asplund space setting.

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