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P.Q. Khanh* (pqkhanh@hcmiu.edu.vn), International University, Linh Trung, Thu Duc, Hochiminh City, Hochiminh 848, Vietnam. *Higher-order Kuhn-Tucker optimality conditions for set-valued optimization with nonsolid ordering cones.*

In this paper, we consider higher-order Kuhn-Tucker optimality conditions in terms of radial derivatives for set-valued optimization with nonsolid ordering cones. First, we develop sum rules and chain rules in the form of equality for radial derivatives. Then, we investigate set-valued optimization with both ordering cones in the objective and constraint spaces having possibly empty interior. We obtain necessary conditions for quasi-relative efficient solutions and sufficient conditions for Pareto efficient solutions. For the special case of weak efficient solutions, we receive even a necessary and sufficient condition. Our results are new or improve recent existing ones in the literature. (Received September 12, 2014)