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Dear Committee of 13th EUROPT Workshop on Advances in Continuous Optimization:

Following, I propose a title and an abstract for a talk.

Title: Pseudoinvexity in continuous vector optimization
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Abstract:

Mathematical programming usually requires the study of optimality conditions joint to the properties of the functions involved. In this regard, it is well known that convex functions play an important role to obtain optimal solutions from critical points. This convex framework has been relaxed throughout last years thanks to generalized convexity. Pseudoinvexity is a suitable property to ensure that a critical point is really an optimal solution or an efficient solution, depending on the dimension (scalar or vectorial) of the considered programming problem. Furthermore, for this last, we show that pseudoinvexity is the minimal property of the functions in vector optimization.

In the scalar case of continuous optimization, the candidates for solutions can be identified from critical points, so as in the vector case, where the classical efficient solutions and weakly efficient solutions are proposed as an extension of these. In a new step, efficiency and optimality conditions are generalized under orders induced by cones with similar technics in vector optimization, where recently new generalizations of pseudoinvexity have appeared with the expected properties, called C-efficiency and C-pseudoinvexity. That is, C-pseudoinvexity is necessary and sufficient for a C-critical point to be a C-efficient solution. New challenges are proposed.

Best regards,
Manuel