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Characterizations of differentiability for h -convex functions in stratified groups

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Abstract. Using the notion of h -subdifferential, we characterize both first and second order differentiability of h -convex functions in stratified groups. Besides some new results involving the h -subdifferential of h -convex functions, we show that at all h -differentiability points of an h -convex function, the existence of a second order expansion coincides with a suitable differentiability of its horizontal gradient.

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