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**Neighbourhood Retractions of Nonconvex Sets in a Hilbert Space via Sublinear Functionals**

For a closed subset  $C$  of a Hilbert space  $(H, \|\cdot\|)$  and for a sublinear functional  $\rho : H \rightarrow \mathbb{R}^+$ , which is equivalent to the norm  $\|\cdot\|$ , we give conditions guaranteeing existence and uniqueness of the nearest points to  $C$  in the sense of the semidistance generated by  $\rho$ . This permits us to construct a continuous retraction onto  $C$  well defined in a neighbourhood  $\mathcal{U} \supset C$ . In particular, according to one of the conditions,  $\mathcal{U}$  can be represented in terms of balance between the local strict convexity modulus of  $\rho$  and the measure of nonconvexity of the set  $C$  at each point.

**Keywords:** Time-minimum problem, Minkowski functional, generalized projection, strict convexity, curvature, proximal normals.

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