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**Some kind of inf-convolution and its regularity properties**

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We consider the inf-convolution of the *Minkowski functional* associated to a closed convex bounded set  $F$  in a Hilbert space  $H$  with the origin in the interior and some sufficiently regular function, which, on one hand, satisfies a *slope condition* with respect to  $F$  while, on the other hand, is assumed to be restricted to a closed subset  $C \subset H$ . We give various interpretations of the above inf-convolution as well as recent results on its Fréchet differentiability and (Hölder) regularity of the gradient. The talk is accompanied with some illustrative examples.

**Joint work with Vladimir Goncharov.**