

**An example of functional  
which is weakly lower semicontinuous on  $W_0^{1,p}$  for every  $p > 2$   
but not on  $H_0^1$**

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In this work in collaboration with Fernando Farroni and Raffaella Giova, we give an example of functional which is defined and coercive on  $H_0^1(\Omega)$ , which is sequentially weakly lower semicontinuous on  $W_0^{1,p}(\Omega)$  for every  $p > 2$ , but which is not sequentially lower semicontinuous on  $H_0^1(\Omega)$ . This functional is non local.

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