

Méthodes topologiques en analyse non linéaire:développements récents -  
Conférence à la mémoire du Professeur Andrzej Granas  
4 - 8 juillet 2022

Topological Methods in Nonlinear Analysis: Recent Advances - Conference  
in memory of Professor Andrzej Granas  
July 4 - 8, 2022

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**A brief excursus on Sobolev inequalities in the Heisenberg group  
and applications to critical subelliptic problems**

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Motivated by important applications to geometric control theory and PDEs, great attention has been recently devoted to the study of geometric inequalities in the context of stratified Lie groups.

In the first part of the talk, we present some classical results and open problems related to the Sobolev inequalities in the Heisenberg group.

In the second part, we apply these inequalities to obtain existence results for nonlinear problems involving subelliptic operators of Marcellini's type in the Heisenberg group.