

**VENTOTENE INTERNATIONAL WORKSHOPS VI  
GRAZP: GROUPS AND RIGIDITY AROUND THE ZIMMER PROGRAM  
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**RIGIDITY OF UNITARY REPRESENTATIONS**

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A unitary representation of a simple Lie group  $G$  is said to be “rigid” if it could be reconstructed from its restriction to a lattice in  $G$ . It turns out that this notion does not depend on the said lattice, and the rigid representations could be explicitly described. I will discuss some results around this fact and some applications to the rigidity of group actions. Finally, I will discuss some conjectures regarding spectral gap in unitary representations and their possible applications to character, IRS and URS rigidity.

The talk is based on a joint work with Roman Sauer and Yehuda Shalom.