1070-58-188   **Emily B. Proctor*** (`eproctor@middlebury.edu`). *Infranil-orbifolds and isospectral sectors.* Preliminary report.

For a nilpotent Lie group G, the action of $\mathrm{Aut}(G) \ltimes G$ on G is not necessarily free. By letting a lattice $\Pi \subset \mathrm{Aut}(G) \ltimes G$ act on G, we can therefore obtain an orbifold as the quotient $\Pi \backslash G$. We call such an orbifold an infranil-orbifold. In 2010, Stanhope and I gave an example of a Laplace isospectral deformation of metrics on an infranil-orbifold using a generalization of Sunada's theorem. In this talk, I will explain the notion of Γ-sectors of an orbifold, and indicate how the example above may prove useful in the study of the Γ-Laplace spectrum of an orbifold. (Received February 10, 2011)