Lie groups and Symmetric spaces

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Abstract: A symmetric space is a Riemannian manifold with isometric point reflections about every point. This class of spaces contains many of (at least) my favourite examples of Riemannian manifolds. Nevertheless one can still classify symmetric spaces completely, exploiting their association with Lie groups. Getting back to the topic of the seminar, we present the definition of continuous and continuous bounded cohomology of a locally compact group. A famous open conjecture asks if these two notions coincide for semisimple connected Lie groups with finite center. We will discuss two resolutions of continuous (bounded) cohomology in this case and hopefully present some evidence for the conjecture.