1163-53-1308     **Jeffrey S Meyer\*** (`jeffrey.meyer@csusb.edu`), **Sara Lapan** and **Benjamin Linowitz**.
*Systoles of Arithmetic Manifolds in Dimensions 3 and 4.*

The systole of a manifold is the minimal length of a non-contractible closed loop. Systoles in arithmetic manifolds have many fascinating relationships with deep problems in number theory, such as Lehmer's Mahler measure problem. In recent years, there have been many papers studying systoles, their bounds, and their growth up covers as you vary the underlying manifolds. In this talk, I will survey these results and discuss recent work with collaborators Sara Lapan and Benjamin Linowitz as it pertains to manifolds in dimensions 3 and 4. (Received September 15, 2020)