1035-37-1472 **Lennard F Bakker*** (bakker@math.byu.edu), 346 TMCB Department of Mathematics, Department of Mathematics, Brigham Young University, Provo, UT 84602. *Spatzier's Conjecture and Generalized Symmetries.* Preliminary report.

Spatzier's Conjecture contends that any irreducible higher-rank abelian Anosov action is smoothly conjugate to an algebraic action. For actions on tori, this conjecture will be shown to be closely related to a conjecture that contends that an equilibrium-free flow which possesses generalized symmetries is smoothly conjugate to a quasiperiodic flow of Koch type. The generalized symmetries which are known to exist for quasiperiodic flows of Koch type are represented by matrices associated to the action of multiplicatively independent units on bases of complete $\mathbb{Z}$-modules (or lattices) in algebraic number fields. (Received September 19, 2007)