1167-17-30 **Hankyung Ko***, hankyung.ko@math.uu.se. *Kostant's problem and categorical actions of the Hecke category.*

Let g be a semisimple complex Lie algebra and let M be a g-module. Consider A(M), the space of linear endomorphisms on M on which the adjoint action of g is finite. A classical question of Kostant is: for which simple module M is the canonical map from U(g) to A(M) surjective?

I will reformulate this problem using the language of monoidal (or 2-)categories. If M belongs to the BGG category O, then the answer to Kostant's problem is 'yes' if and only if certain categorical actions of the Hecke category are equivalent, and the latter is determined by decomposing the action of translation functors on M. This leads to a conjectural combinatorial answer to Kostant's problem in terms of the Kazhdan-Lusztig basis.

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