

1073-16-21

Kiyoshi Igusa* (igusa@brandeis.edu), Mathematics Department, Brandeis University, Waltham, MA 02453, **Shiping Liu** (shiping.liu@usherbrooke.ca), Département de Mathématiques, Université de Sherbrooke, Sherbrooke, Québec J1K 2R1, and **Charles Paquette** (charles.paquette@usherbrooke.ca), Département de Mathématiques, Université de Sherbrooke, Sherbrooke, Québec J1K 2R1. *A proof of the strong no loop conjecture.*

Given a quiver with relations, the strong no loop conjecture states that, if the quiver has a loop at a vertex, the simple module at the vertex has infinite projective dimension. This has been shown in several cases. We give a proof of this conjecture in general using a localized trace function for endomorphisms of modules. We also obtain several extensions and generalizations. (Received June 24, 2011)