Lie II theorem for Lie algebroids via higher groupoids

We prove Lie II theorem for Lie algebroids via higher groupoids. Lie algebroids are the infinitesimal correspondence of Lie groupoids, however, not like finite dimensional Lie algebras (which is a Lie algebroid over a point), Lie algebroids do not always integrate back to Lie groupoids. There is a one-to-one correspondence between Lie algebroids and étale stacky groupoids. In this stacky world, the universal object to use in Lie II theorem has changed. It is now source 2-connected instead of source-simply connected as we usually require (again not like simply-connected Lie groups, some Lie groupoids are only source-simply connected but not source-2-connected). Then with this new universal object, Lie II theorem is proven by a certain "small object argument" adapted in differential geometry.

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