

1142-57-24

Lei Chen* (chenlei@caltech.edu), chenlei@caltech.edu, and **Nick Salter**. *The Birman exact sequence does not virtually split*. Preliminary report.

This paper answers a basic question about the Birman exact sequence in the theory of mapping class groups. We prove that the Birman exact sequence does not admit a section over any subgroup contained in the Torelli group with finite index. A fortiori this proves that there is no section of the Birman exact sequence for any finite-index subgroup of the full mapping class group. This theorem was announced in a 1990 preprint of G. Mess, but an error was uncovered and described in a recent paper. This is joint work with Nick Salter. (Received August 15, 2018)