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*Computing Coleman integrals on modular curves.* Preliminary report.

In computational applications of the (abelian and nonabelian) Chabauty methods to finding rational points on curves, a key point is the computation of (single and double)  $p$ -adic Coleman integrals on these curves. The usual method of doing this uses the change of variables formula for a Frobenius lift, as in Coleman's original definition. We describe a modified approach in the case of modular curves, which uses the  $p$ -th Hecke operator and the Eichler-Shimura congruence instead. (Received August 28, 2019)