FINAL PROJECT

Let G be the special linear group $\mathrm{SL}_n(\mathbb{Z})$ with $n \geq 2$ and M a left G-module. For any subgroup $H \leq G$, we have the following map on cohomology induced by the inclusion:

$$i^* : H^m(G, M) \to H^m(H, \mathrm{Res}^G_H M)$$

Now give a nonzero element $\alpha \in H^m(G, M)$ of finite order with $m \geq 1$, can one find a finite index subgroup $H \leq G$, such that $i^*(\alpha) = 0$?

Date: 25.04.2022.