- Return to RatProbAlgTori
- Return to MultInvField

crystcat.gap

Definition of M_G

Let G be a finite subgroup of $\mathrm{GL}(n,\mathbb{Z})$. The G-lattice M_G of rank n is defined to be the G-lattice with a $\mathbb{Z}$-basis $\{u_1,\ldots,u_n\}$ on which G acts by $\sigma(u_i)=\sum_{j=1}^{n} a_{i,j}u_j$ for any $\sigma=[a_{i,j}]\in G$.

Hminus1

```
▸ Hminus1(G)
```

returns the Tate cohomology group $\widehat{H}^{-1}(G,M_G)$ for a finite subgroup $G\leq \mathrm{GL}(n,\mathbb{Z})$.

H0

```
▸ H0(G)
```

returns the Tate cohomology group $\widehat{H}^{0}(G,M_G)$ for a finite subgroup $G\leq \mathrm{GL}(n,\mathbb{Z})$.

H1

```
▸ H1(G)
```

returns the cohomology group $H^1(G,M_G)$ for a finite subgroup $G\leq \mathrm{GL}(n,\mathbb{Z})$.

CrystCatQClass, CrystCatQClassCatalog, CrystCatQClassNumber

```
▸ CrystCatQClass(G)
```

```
▸ CrystCatQClassCatalog(G)
```

```
▸ CrystCatQClassNumber(G)
```

returns the CrystCat ID ($\mathbb{Q}$-class) of G for a finite subgroup $G\leq \mathrm{GL}(n,\mathbb{Z})$. For CrystCat ID, see [HY17, Chapter 3].

CrystCatZClass, CrystCatZClassCatalog, CrystCatZClassNumber

▸ `CrystCatZClass(G)`

▸ `CrystCatZClassCatalog(G)`

▸ `CrystCatZClassNumber(G)`

returns the CrystCat ID ($\mathbb{Z}$-class) of G for a finite subgroup $G \leq \mathrm{GL}(n, \mathbb{Z})$. For CrystCat ID, see [HY17, Chapter 3].

References

[HY17] Akinari Hoshi and Aiichi Yamasaki, Rationality problem for algebraic tori, Mem. Amer. Math. Soc. **248** (2017) no. 1176, v+215 pp. AMS Preprint version: arXiv:1210.4525.