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BCAlgTori for GAP 4 ver.2022.01.27

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Needs: [GAP](#), version $\geq 4.9.3$; GAP package [HAP](#), version $\geq 1.12.6$;

Current version: [BCAlgTori-2022.01.27.zip](#)

([SearchPFilterRowBlocks](#) in [FlabbyResolutionBC.gap](#) was modified)

Old version: [BCAlgTori-2021.12.07.zip](#)

([CharacteristicCyclotomicPolynomial](#), [CharPolyList](#) in [crystcat.gap](#) were added;

[CrystCatQClass](#), [eigen22](#) in [crystcat.gap](#) were modified where [crystcat.gap](#) was given in [RatProbAlgTori for GAP 4 ver.2017.06.18](#) and [MultInvField for GAP 4 ver.2018.11.03](#) in order to work in GAP 4.9.3)

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URL:

<http://mathweb.sc.niigata-u.ac.jp/~hoshi/Algorithm/BCAlgTori/index.html>

<https://www.math.kyoto-u.ac.jp/~yamasaki/Algorithm/BCAlgTori/index.html>

Description

This code provides algorithms for birational classification for algebraic tori.

Installation

Download [BCAlgTori-2022.01.27.zip](#) and unpack it to `~/` (`/home/username`). Then type `Read("BCAlgTori.gap");` on GAP.

Documentation

[crystcat](#) [[.html](#)], [[.pdf](#)]

[FlabbyResolutionBC](#) [[.html](#)], [[.pdf](#)]

[README](#) [[.html](#)], [[.pdf](#)]

Content

```
BCAlgTori-2022.01.27.zip +- BCAlgTori.gap
                        +- crystcat.gap
                        +- crystcat.pdf
                        +- FlabbyResolutionBC.gap
                        +- FlabbyResolutionBC.pdf
                        +- FlabbyResolutionBCver.2021.12.07.gap
                        +- NonInv.dat
                        +- README.txt
                        +- README.pdf
                        +- TorusInvariants.dat
                        +- WeakStablyEquivalentClass.dat
                        +- BCAlgTori-2022.01.27.pdf
```

References

[HY] Akinari Hoshi and Aiichi Yamasaki, Birational classification for algebraic tori, [arXiv:2112.02280](#).

BCAlgTori is a free software.
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