

# Mapping degrees among 4-dimensional quasitoric manifolds

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We study the set  $D(M, N)$  of all possible mapping degrees from  $M$  to  $N$  when  $M$  and  $N$  are quasitoric 4-manifolds. In some of the cases, we completely describe this set. Our results rely on Theorems proved by Duan and Wang and the sets of integers obtained are interesting from the number theoretical point of view, for example those representable as the sum of two squares  $D(\mathbb{C}P^2 \# \mathbb{C}P^2, \mathbb{C}P^2)$  or the sum of three squares  $D(\mathbb{C}P^2 \# \mathbb{C}P^2 \# \mathbb{C}P^2, \mathbb{C}P^2)$ . In addition to the general results about the mapping degrees between quasitoric 4-manifolds, we establish connections between Duan and Wangs approach, quadratic forms, number theory and lattices.

## References

- [1] Dj. B. Baralic, On a class of Gauss-like quadrature rules, *J. Aust. Math. Soc.* **103**(3) (2017), 289–312.