

## Cycle spaces and cohomological width

In his work on singularities, expanders and topology of maps, Gromov showed, using isoperimetric inequalities in graded algebras, that every real valued map on the  $n$ -torus admits a fibre whose homological size is bounded below by some universal constant depending on  $n$ .

We will present a generalisation of this result from tori to products of projective spaces. The proofs are motivated by the topology of cycle spaces which give rise to perspectives in various geometric fields.