



UNIVERSITÀ
DI TRENTO

Dipartimento di
Matematica

DOTTORATO



CYCLE 34th
ORAL DEFENCE OF THE PHD THESIS

Thursday 30 June 2022 – at 11:00 am
Seminar room “-1”

The event will take place in presence and online through the ZOOM platform.
To get the access codes please contact the secretary office

Francesco Sentieri

PhD Student in Mathematics

On large and small torsion pairs

Abstract:

Torsion pairs were introduced by Dickson in 1966 as a generalization of the concept of torsion abelian group to arbitrary abelian categories. Using torsion pairs, we can divide complex abelian categories in smaller parts which are easier to understand.

In this talk we discuss torsion pairs in the category of modules over a finite-dimensional algebra, in particular we explore the relation between torsion pairs in the category of all modules and torsion pairs in the category of finite-dimensional modules.

In the first part of the talk we present the analogue of a classical theorem of Auslander in the context of τ -tilting theory: for a finite-dimensional algebra the number of torsion pairs in the category of finite-dimensional modules is finite if and only if every brick over such algebra is finitedimensional.

In the second part, we revisit the Ingalls-Thomas correspondences between torsion pairs and wide subcategories in the context of large torsion pairs. We provide a nice description of the resulting wide subcategories and show that all such subcategories are coreflective.

Supervisor: Lidia Angeleri

CONTATTI

Staff di Dipartimento - Matematica
tel. 0461 281508-1625-1701-3786

phd.maths@unitn.it
www.maths.unitn.it