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INVITATION TO TORSO PARAMETERS OF ANNOTATED GRAPHS

An annotated graph is a pair (G, S) where G is a graph and S is a subset of vertices of G . The vertices in S are *important* vertices of the graph. We would like to decompose G so that the *complexity* of the vertices of S is preserved but we do not care much about the other vertices. Several groups recently discovered that it is useful in this context to consider so-called *torso decompositions*, and *torso parameters*. Torso parameters can be described in terms of rooted minors, i.e. minors witnessed by a model where each branchset contains a vertex in S . We obtain several excluded minor – bounded parameter dualities analogous to these in classical structural graph theory. I will discuss and carefully introduce the main concepts along with some applications and open problems.

This is based on joint work with Hoang La, Piotr Micek, Clément Rambaud; and Quentin Claus, Gwenaël Joret, Pat Morin; and Maël Dumas, Tomasz Mazur, Piotr Micek, Clément Rambaud, Giannos Stamoulis.