

## **Castelnuovo-Mumford regularity up to symmetry**

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Ideals in infinite dimensional polynomial rings invariant under the action of the action of some large group play an important role in recent studies in toric algebras, algebraic statistics, representation theory. One way to study these ideals is by considering the filtrations of ideals in finite dimensional polynomial rings induced by such invariant ideals. We discuss the asymptotic Castelnuovo-Mumford regularity of such filtrations of ideals.

This is joint work with D.V. Le, U. Nagel and T. Römer.