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*Containments of symbolic powers in ordinary powers*

We discuss joint work with Cristiano Bocci and Susan Cooper verifying cases of refined containment conjectures of the speaker with Craig Huneke. Given a homogeneous ideal  $I$  in a polynomial ring, the question is which symbolic powers of  $I$  are contained in a given ordinary power of  $I$ . The refinements involve multiplying the powers of  $I$  by powers of the irrelevant ideal.