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*Algebraic invariants of fiber products*

Let  $X$  and  $Y$  be varieties over a field  $k$ , and let  $Z = X \times_k Y$  be their fiber product. In this talk, we consider the question of how singularity and multiplicity theories of  $Z$  can be understood from those of  $X$  and  $Y$ . Specifically, our focus will be on the Castelnuovo-Mumford regularity and depth of symbolic and regular powers of their defining ideals.