

SYZYGIES AND CONSTANT RANK OPERATORS

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The constant rank condition on a system of linear PDEs with constant coefficients is often used in the theory of compensated compactness. While this is a purely linear algebraic condition, the commutative algebra notion of primary decomposition is another important tool for studying such system of PDEs. In this talk we will explore the connection between these two concepts. Along the way, a decomposition of our differential operator into a controllable and an uncontrollable part will play an important role.

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