

# Applications of Perverse sheaves in commutative algebra

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Abstract: I report on ongoing joint work with Bhatt, Lyubeznik, Singh and Zhang on applying the theory of perverse sheaves to problems about local cohomology via Riemann-Hilbert-Type correspondences. In this talk I will focus on the positive characteristic part of the story and first give an introduction to perverse coherent and constructible  $\mathbf{F}_p$ -sheaves do derive a characterization of rational singularities in this context. Time permitting other applications will be explained.