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D-Modules, Perverse Sheaves, and Representation Theory

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The key to *D-modules, Perverse Sheaves, and Representation Theory* is the authors' essential algebraic-analytic approach to the theory, which connects D-Modules to representation theory and other areas of mathematics. Significant concepts and topics that have emerged over the last few decades are presented, including a treatment of the theory of holonomic D-modules, perverse sheaves, the all-important Riemann-Hilbert correspondence, Hodge modules, and the solution to Kazhdan-Lusztig polynomials using D-module theory. To further aid the reader, and to make the work as self-contained as possible, appendices are provided as background for the theory of derived categories and algebraic varieties.

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