

# **Classification and Solution of Rational Conformal Field Theories**

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Conformal field theories (CFT) in two dimensions are of interest in statistical physics and string theory, as well as for their mathematical properties. Rational CFT have a finite number of primary fields of an extended chiral algebra, and these are often exactly solvable. In this talk I will give an overview of a programme that attempts to classify conformal field theories with a small number of primaries. This programme is based on modular linear differential equations (MLDE) whose independent solutions are vector-valued modular functions. Whenever the solutions of this equation have a series expansion with non-negative integer coefficients, these are candidate characters of an RCFT. Thereafter, we apply specific tests to determine whether such characters really determine a consistent RCFT. Several novel theories are obtained in this way.