

UAM Lectures on PDEs and Geometry

Monotonicity formulae, Liouville theorems, a priori estimates for singular/degenerate elliptic and parabolic equations

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we will show how to derive Liouville-type theorems using monotonicity formulae and how to apply them to obtain a-priori estimates and asymptotic properties for solutions of singular/degenerate equations of type

$$-\operatorname{div}(|y|^a \nabla u) = 0$$

Applications will be given to regularity issues and nodal properties of solutions.