

On the strong maximum principle for equations with general nonlinearities

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In this talk, we discuss the validity of the strong maximum principle (SMP) for solutions of general elliptic equations in divergence form with nondecreasing nonlinearities. Our approach relies on establishing Cacciopoli inequalities for both sub- and supersolutions, which, in turn, lead to a generalized Harnack inequality. As a consequence, we derive the SMP for non-negative supersolutions. This presentation is based on joint work with Boyan Sirakov (PUC-Rio).

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