The infinity-Laplace equation

Peter Lindqvist
Norwegian University of Science and Technology

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The infinity-Laplace equation is a distant cousin of the ordinary Laplace equation. It is an interesting fully non-linear partial differential equation and has even been called ”the Last Great Scalar Equation”. It is remarkable that the equation has been discovered and rediscovered several times, to wit:

1) it is the limit of the p-Laplace equations.
2) the solutions provide the best Lipschitz extensions.
3) it appeared in image processing.
4) it is related to game theory (Tug-of-War).
5) comparison with cones characterizes solutions.

We plan to introduce the equation and its basic theory. The modern concept of viscosity solutions has a nice use here and so some related basic facts are also treated.