Poincaré inequalities on the Vicsek set

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The Vicsek set is a tree-like fractal on which neither analog of curvature nor differential structure exists, whereas the heat kernel satisfies sub-Gaussian estimates. I will talk about Sobolev spaces and scale invariant L^p Poincaré inequalities on the Vicsek set. Several approaches will be discussed, including the metric approach of Korevaar-Schoen and the approach by limit approximation of discrete p-energies.