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Sean Cleary, Department of Mathematics, The City College of New York, City University of New York, New York, NY 10031, **Susan Hermiller*** (smh@math.unl.edu), Department of Mathematics, University of Nebraska, Lincoln, NE 68588-0130, **Melanie Stein**, Department of Mathematics, Trinity College, Hartford, CT 06106, and **Jennifer Taback**, Department of Mathematics, Bowdoin College, Brunswick, ME 04011. *Geometric properties of Thompson's group F .*

The isodiametric function can be thought of as measuring the height of the tallest peak in a van Kampen diagram for a presentation; in this talk I will discuss a refinement of this, namely a filling function that measures the overall “tameness” of the peaks and valleys in van Kampen diagrams. For Thompson's group F , I will discuss geometric properties of the Cayley 2-complex and a quasi-geodesic combing which lead to a proof that the tameness function is linear for this group. (Received September 17, 2010)