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**Kenneth C Millett\*** ([millett@math.ucsb.edu](mailto:millett@math.ucsb.edu)), Department of Mathematics, UCSB, Santa Barbara, CA 93106. *Knot complexity: an analysis of subknots.*

Employing a thick polygonal realization of a knot, we analyze the associated local knotting fingerprint, presented as a decorated disk matrix, to determine the directed planar graph expressing the local knot type regions of the fingerprint. The complexity of this graph provides new measures of the complexity of the knot. The number of independent knotting pathways, the number of unconstrained knotting pathways, and a specialization of the Cheeger constant for directed graphs such as these will be described. (Received August 29, 2014)