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Christine E. Heitsch* (heitsch@math.gatech.edu), School of Mathematics, Georgia Institute of Technology, 686 Cherry Street, Atlanta, GA 30332. *Meanders and RNA Folding*.

An RNA molecule is a biochemical chain which folds in 3D via noncrossing base pairings called a secondary structure. Abstractly, two maximally different RNA secondary structures form a single closed loop known as a meander. Although meanders occur in a variety of mathematical settings, much remains unknown including their exact enumeration. Efforts to understand the geometry of RNA configuration landscapes lead naturally to a local move transformation on meanders. The resulting meander graphs have some interesting characteristics, which may yield new counting approaches. Additionally, MCMC sampling of meanders can provide insight into RNA branching configurations at viral genome length scales. (Received September 15, 2017)