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*Path Sets and Interleaving*

I will first give a brief overview of how questions in number theory and fractal geometry led to a discussion of sequences generated by infinite walks on graphs. Given the right structure, a graph presents a set of sequences, called a "path set." A path set  $\mathcal{P}$  can be associated to a fractal set of  $p$ -adic integers, and the topological entropy of  $\mathcal{P}$  can be used to calculate the Hausdorff dimension of its associated fractal set. We will look at interleaving and related operations on these path sets, discuss the effect these operations have on the graphs presenting the path sets, and discuss an algorithm for detecting path sets that are irreducible with respect to the interleaving operations.