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Oscar Levin* (oscar.levin@unco.edu). *Effective labelings of infinite graphs*. Preliminary report.

A *graph labeling* assigns integers to vertices, edges, or both, subject to certain conditions. For example, a labeling is *graceful* if the difference of labels on adjacent vertices is distinct for all edges, while a labeling is *edge-magic* if the sum of the labels on an edge and its incident vertices is constant for all edges. Graph labelings are usually studied for finite graphs, but some work has been done to extend these to infinite cases. In this talk we will consider the computable analogues to some results for graceful, edge-magic, and related labelings of infinite graphs. Using ideas from computability theory, we will explore the connection between the complexity of a graph's presentation and the complexity of its labelings. (Received August 29, 2016)