1077-05-1894   **Wilfried Imrich*** (`imrich@unileoben.ac.at`), Gubattagasse 2, 8700 Leoben, Austria. *Vertex Transitive Infinite Median Graphs.*

Median graphs are generalizations of trees and can be characterized as retracts of hypercubes, both in the finite and in the infinite case.

In the finite case all regular median graphs are hypercubes, and thus vertex transitive. In the infinite case the structure of regular, respectively of vertex transitive median graphs, is much richer. We present the following results, most of them obtained together with Sandi Klavžar:

- For a given degree there are only finitely many vertex transitive median graphs whose blocks are finite. We list them for small degrees.

- There is only one infinite cubic median graph with two ends. It is vertex transitive.

- There are regular median graphs of degree four with two ends that are not vertex transitive.

- We characterize all locally finite vertex transitive median graphs with two ends.

- We characterize all locally finite vertex transitive median graphs with nonlinear, polynomial growth.

The methods used range from theorems about the number of orbits in finite median graphs, the fixed cube property of finite median graphs, to properties of the free product of graphs, and the lattice dimension of partial cubes. (Received September 21, 2011)