

## Mediatic Graphs

Author: Jean-Claude Falmagne

**Abstract.** It is well-known that any medium corresponds to an isometric subgraph of the hypercube, and vice versa. Such a characterization, although useful, is not especially revealing of the structure of a particular medium. We propose an axiomatic definition of the concept of a ‘mediatic graph’. The graph of any medium is a mediatic graph. We also show that, for any non-necessarily finite set  $\mathcal{S}$ , there exists a bijection between the collection  $\mathfrak{M}$  of all the media on a given set  $\mathcal{S}$  (of states) and the collection  $\mathfrak{G}$  of all the mediatic graphs on  $\mathcal{S}$ .