

*MBS 94-24*

Well-graded Families of Relations

Jean-Paul Doignon, Jean-Claude Falmagne

---

Any semiorder on a finite set can be reached from any other semiorder on the same set by elementary steps consisting either in the addition or in the removal of a single ordered pair, in such a way that only semiorders are generated at every step, and also that the number of steps equals the distance between the two semiorders. Similar results are also established for other families of relations (partial orders, biorders, interval orders). These combinatorial results are used in another paper to develop a stochastic theory describing the emergence and the evolution of preference relations (Falmagne and Doignon, in preparation).