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**Einar Steingrímsson\*** (einar@alum.mit.edu). *A hierarchy of generalized pattern avoidance and  $\beta(0, 1)$ -trees.*

A  $\beta(0, 1)$ -tree is an instance of so called description trees introduced by Cori, Jacquard, and Schaeffer in 1997 to give a general framework for the recursive decompositions of several families of planar maps studied by Tutte, and Brown and Tutte.

We consider a hierarchy (by set inclusion) of sets of permutations avoiding generalized patterns based on the permutations 2413 and 3142. Objects related to this hierarchy are *2-stack sortable permutations*, *Baxter permutations*, *Schröder paths*, *plane permutations*, *rooted plane trees with marked leaves*,  $\beta(1, 0)$ -trees, and *forests of  $\beta(0, 1)$ -trees*. We show that several of the pattern avoiding classes, and thus several of the objects mentioned above, can be embedded into  $\beta(0, 1)$ -trees. As a particular consequence, we have an induced embedding of one family of planar maps into another one.

The hierarchy we are considering can all be modeled with sets of pattern avoiding permutations. We seek a different structure, with a more transparent recursive construction, into which we can embed the entire hierarchy. It is not yet clear whether  $\beta(0, 1)$ -trees, or some variation on these, can serve as that structure.

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