
On intervals of the consecutive pattern poset

Sergi Elizalde^{*1} and Peter R. W. Mcnamara^{*2}

¹Department of Mathematics [Dartmouth] – Dartmouth College Hanover, NH 03755-3551, USA,
États-Unis

²Department of Mathematics – Bucknell University Lewisburg, PA 17837, États-Unis

Résumé

The consecutive pattern poset is the infinite partially ordered set of all permutations where $\sigma \leq \tau$ if τ has a subsequence of adjacent entries in the same relative order as the entries of σ . We study the structure of the intervals in this poset from topological, poset-theoretic, and enumerative perspectives. In particular, we prove that all intervals are rank-unimodal and strongly Sperner, and we characterize disconnected and shellable intervals. We also show that most intervals are not shellable and have Mo bius function equal to zero.

*Intervenant