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Drew Armstrong, Christian Stump* (christian.stump@lacim.ca) and **Hugh Thomas**. *A uniform bijection between nonnesting and noncrossing partitions.*

In 2007, D.I. Panyushev defined a remarkable map on the set of nonnesting partitions (antichains in the root poset of a finite Weyl group). We identify Panyushev's map with the Kreweras complement on the set of noncrossing partitions, and hence construct the first uniform bijection between nonnesting and noncrossing partitions. Unfortunately, the proof that our construction is well-defined is case-by-case, using a computer in the exceptional types. Fortunately, the proof involves new and interesting combinatorics in the classical types. As consequences, we prove some conjectural properties of the Panyushev map, and we prove two cyclic sieving phenomena conjectured by D. Bessis and V. Reiner. (Received February 06, 2011)