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Nathan Ferd Williams* (will13089@umn.edu). *Towards a uniform description of a bijection between nonnesting and noncrossing partitions.* Preliminary report.

Nonnesting and noncrossing partitions have elegant definitions: elements of the positive root poset of a crystallographic root system are the nonnesting partitions, while elements beneath a Coxeter element in the absolute order on the corresponding Coxeter group are the noncrossing partitions. There is a case-by-case proof that there are the same number of nonnesting and noncrossing partitions for each type, but a uniform statement demands a uniform proof. D. Armstrong, C. Stump, and H. Thomas recently exploited two natural cyclic actions to uniformly characterize a bijection between nonnesting and noncrossing partitions. A natural next step would be a uniform description of a bijection; we present some work in this direction. (Received January 14, 2012)