

A Bijection between Atomic Partitions and Unsplitable Partitions

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Abstract: In the study of the algebra NCSym of symmetric functions in noncommutative variables, Bergeron and Zabrocki found a free generating set consisting of power sum symmetric functions indexed by atomic partitions. On the other hand, Bergeron, Reutenauer, Rosas, and Zabrocki studied another free generating set of NCSym consisting of monomial symmetric functions indexed by unsplitable partitions. Can and Sagan raised the question of finding a bijection between atomic partitions and unsplitable partitions. In this paper, we provide such a bijection.

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