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The immaculate basis of the non-commutative symmetric functions

We introduce a new basis of the non-commutative symmetric functions whose elements have Schur functions as their commutative images. Dually, we build a basis of the quasi-symmetric functions which expand positively in the fundamental quasi-symmetric functions and decompose Schur functions according to a signed combinatorial formula. These bases have many interesting properties similar to those of the Schur basis, and we will outline a few of them.