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Sheila Sundaram* (shsund@comcast.net). *On the Schur-positivity of sums of power-sums*. Preliminary report.

We show that the multiplicity-free sum of power-sum symmetric functions indexed by partitions λ whose parts are all powers of a fixed prime q , is Schur-positive. We give a precise description of the associated symmetric group representations.

A famous result of Thrall states that the regular representation of the symmetric group S_n decomposes into a sum of symmetric powers of the representation afforded by the free Lie algebra. By contrast, our work leads to a decomposition of the regular representation as a sum of *exterior* powers of modules related to the Lie representation of S_n . (Received February 04, 2017)