

## **Polynomial functors and strength**

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A recent result by Draisma shows that all finite-degree polynomial functors are topologically Noetherian. For a large part, this result relies on the statement that any proper closed subset  $X$  in a polynomial functor  $P$  contains a subset  $U$  that can be embedded in a smaller polynomial functor  $Q$  in some well-defined sense. We discuss this result, and in the case of the polynomial functor  $S^d$ , we show that there exists a polynomial map backwards that allows us to reconstruct the elements of  $U$  from their image in  $Q$ . Moreover, this map can be computed explicitly, and we show that this means that all proper closed subsets of  $S^d$  contain only elements of bounded strength, meaning they can be expressed in polynomials of smaller degree using a fixed number of terms.