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**Cumulant Signal Processing, Tensors, and Some Recurring Problems**

We revisit some signal processing problems involving cumulants and tensor structures. The first concerns attempts to extend interpolation problems from matrix displacement theory into higher-order analogs, using tensor displacement structures. This problem is relevant whenever one seeks to fit a linear model to a multidimensional data set, yet has met with only sparse attention. We address also convergence of higher-order symmetric power methods applied to tensors. This problem arises in blind signal separation, which is solved when the signal mixture is a square invertible matrix, but remains problematic in more realistic cases where a linear demixer can at best only partially separate signals of interest. We review how certain "sign definite" properties of tensors can ensure monotonic convergence, along with some counterexamples when the sign-definite property is not satisfied, thus identifying a further open problem.