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Weronika Buczyńska, Jarosław Buczyński, Johannes Kleppe and Zach Teitler*
(zzeitler@member.ams.org). *Direct sum decomposability of forms.*

A polynomial is a direct sum if it can be written as a sum of two nonzero polynomials in some distinct sets of variables, up to a linear change of variables. We analyze criteria for a homogeneous polynomial to be decomposable as a direct sum in terms of the apolar ideal of the polynomial. We prove that the apolar ideal of a polynomial of degree d strictly depending on all variables has a minimal generator of degree d if and only if it is a limit of direct sums. This is joint work with Weronika Buczyńska, Jarosław Buczyński, and Johannes Kleppe. (Received February 04, 2017)