Grace-like polynomials and related questions

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We call Grace-like a complex polynomial $P(z_1, \ldots, z_n, w_1, \ldots, w_n)$ separately affine in the complex variables $z_1, \ldots, w_n$, if it does not vanish whenever there is a circle in the complex plane separating $z_1, \ldots, z_n$ on one side and $w_1, \ldots, w_n$ on the other side. The study of Grace-like polynomials reduces to the case when P is homogeneous of degree n. Grace-like polynomials are related to stability-preserving operators studied by Borcea and Brändén.

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