Subresultants of Several Ore Polynomials

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Subresultant theory is a fundamental tool in computer algebra and algebraic geometry, and its extension to several commutative polynomials has been a significant development in recent years. In this paper, we generalize the theory of subresultants to the setting of several Ore polynomials. Our contributions are as follows:

1. We introduce a novel definition of subresultants for several Ore polynomials, expressed explicitly in terms of their coefficients.

2. We demonstrate the utility of this definition by employing it to compute the parametric greatest common right divisor (GCRD) of several Ore polynomials.

3. We provide three equivalent expressions of the proposed definition, which are formulated in terms of the solutions of Ore polynomials.

References

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