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Title: Higher-order Image Conjecture for differential operators of polynomial algebras

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The interest in images of differential operators of polynomial algebras arose from the research of the Jacobian conjecture. In this paper, we show that the *Higher-order Image Conjecture* ($\text{HIC}(n)$) holds for all dimensions $n \geq 1$ in the case of positive characteristic. We also show that $\text{HIC}(1)$ holds for a class of differential operators in the case of characteristic zero.

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