

## How can Gröbner bases be generalized to differential algebra?

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I'm aware of the Rosenfeld-Gröbner algorithm "for computing a regular decomposition of a radical differential ideal generated by a set of polynomial differential equations, ordinary or with partial derivatives" as it's described in [1].

Is this the best known generalization of Buchberger's algorithm to differential algebra?

Leaving any specific algorithm aside, is the representation of the ideal produced by Rosenfeld-Gröbner the best known generalization of Gröbner bases to differential algebra?

### Reference

[1] Hashemi, A., Touraji, Z. (2014). "[An Improvement of Rosenfeld-Gröbner Algorithm](#)", in: Hong, H., Yap, C. (eds) *Mathematical Software – ICMS 2014*, Lecture Notes in Computer Science, vol 8592, Berlin-Heidelberg-New York: Springer, [MR3334804](#), [Zbl 1434.13001](#).

groebner-bases

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