

How can Gröbner bases be generalized to differential algebra?

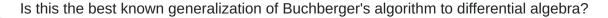
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I'm aware of the Rosenfeld-Gröbner algorithm "for computing a regular decomposition of a radical differential ideal generated by a set of polynomial differential equations, ordinary or with partial derivatives" as it's described in [1].









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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?



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

groebner-bases

differential-algebra

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Brent Baccala