MR1334219 (96f:17041) 17D92 17C10
Martínez, C. [Martínez López, Consuelo] (E-UO)
On nuclear Jordan-Bernstein algebras. (English summary)
J. Algebra **174** (1995), *no. 2,* 453–472.

The author introduces the notion of free nuclear Bernstein-Jordan algebra over a (finite) set of generators, and subsequently the notion of free Bernstein-Jordan algebra over a (finite) set of generators. The constructions of these free objects start from the observation that the radical N (i.e. the kernel of the weight homomorphism) of a Bernstein-Jordan algebra has a Z_2-grading induced by the Peirce decomposition. Therefore, it is possible to start with a free algebra of polynomials, employ its natural Z_2-grading and factor out the necessary identities. (It should be emphasized that the generating sets mentioned above are required to respect the grading.) Applications include several results on the degree of nilpotency of (Jordan-) Bernstein algebras. In particular, a conjecture of Grishkov stating that every nuclear Bernstein algebra generated by r elements satisfies $N^{2r+2} = 0$ is shown to be true. In addition, it is shown that a free nuclear Bernstein-Jordan algebra always has non-inner derivations.

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