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Necessary and sufficient conditions for a variety of Leibniz algebras to have polynomial growth. (English. Russian original) Zbl 1184.17003

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Summary: We study the behavior of the codimension sequence of polynomial identities of Leibniz algebras over a field of characteristic 0. We prove that a variety V has polynomial growth if and only if the condition

$$N_2A, \widetilde{V_1} \not\subset V \subset \widetilde{N_cA}$$

holds, where N_2A is the variety of Lie algebras defined by the identity $(x_1x_2)(x_3x_4)(x_5x_6) \equiv 0$, $\widetilde{V_1}$ is the variety of Leibniz algebras defined by the identity $x_1(x_2x_3)(x_4x_5) \equiv 0$, and $\widetilde{N_cA}$ is the variety of Leibniz algebras defined by the identity $(x_1x_2)(x_{2c+1}x_{2c+2}) \equiv 0$.

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