Universal Poisson Envelope for Binary-Lie Algebras

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In this article the universal Poisson enveloping algebra for a binary-Lie algebra is constructed. Taking a basis B{double-struck} of a binary-Lie algebra B, we consider the symmetric algebra S(B) of polynomials in the elements of B{double-struck}. We consider two products in S(B), the usual product of polynomials fg and the braces {f, g}, defined by the product in B and the Leibniz rule. This algebra is a general Poisson algebra. We find an ideal I of S(B) such that the factor algebra S(B)/I is the universal Poisson envelope of B. We provide some examples of this construction for known binary-Lie algebras.