Mathematics > Symplectic Geometry

Deformations of Poisson structures by closed 3-forms

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We prove that an arbitrary Poisson structure omega^{ij}(u) and an arbitrary closed 3-form T_{ijk}(u) generate the local Poisson structure A^{ij}(u,u_x) = M^i_s(u,u_x)omega^{sj}(u), where M^i_s(u,u_x)(delta^s_j + omega^{sp}(u)T_{pjk}(u)u^k_x) = delta^i_j, on the corresponding loop space. We obtain also a special graded epsilon-deformation of an arbitrary Poisson structure omega^{ij}(u) by means of an arbitrary closed 3-form T_{ijk}(u).

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