

Polynomial and Elliptic Algebras, Heisenberg group and Cremona transformations

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We shall discuss some aspects of polynomial Poisson structures on C^n and CP^n with $n = 3, 4, 5$. The quasi-classical limit of the famous elliptic Sklyanin algebra is a particular important example of such structures. We use the Heisenberg group invariance and describe a unimodularity property of elliptic Poisson algebras. The case of $n = 5$ is of a special interest because of presence of two non-isomorphic families of Sklyanin elliptic algebras (Odesskii-Feigin). Their relation with Cremona transformations in CP^4 is described.