

**Lychagina, O. V.**

**Degenerate Poisson structures in dimension 3.** (English. Russian original) [Zbl 0965.53053](#)  
*Math. Notes* 63, No. 4, 509-521 (1998); translation from *Mat. Zametki* 63, No. 4, 579-592 (1998).

Summary: Formal normal forms of degenerate Poisson structures in dimension 3 are described. The main tool of the study is a spectral sequence previously introduced by the author [*Dokl. Math.* 54, 706-709 (1996; [Zbl 0898.58020](#)), and *Math. Notes* 61, 180-192 (1997; [Zbl 0915.58095](#))]. In particular, this method allows one to obtain a new proof of the linearizability of Poisson structures with semisimple linear part. However, there are nonlinearizable Poisson structures in dimension 3 as well.

**MSC:**

[53D17](#) Poisson manifolds; Poisson groupoids and algebroids

[37J40](#) Perturbations of finite-dimensional Hamiltonian systems, normal forms, small divisors, KAM theory, Arnol'd diffusion

**Keywords:**

formal normal forms; degenerate Poisson structures; spectral sequence; linearizability

**Full Text:** [DOI](#)

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