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Title:

Universal central extensions of Lie algebras of vector fields

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Abstract:

I will start by reminding an older work [1] on the universal central extension of the Lie algebra of Hamiltonian vector fields, then I will explain our new work on the universal central extension of the Lie algebra of exact divergence free vector fields. Both results were conjectured in [2]. Unlike the Hamiltonian setting, a detour in the realm of Leibniz algebras is needed in the divergence free setting.

References:

- [1] B. Janssens, C. Vizman, Universal central extension of the Lie algebra of Hamiltonian vector fields, IMRN, 2016.16(2016) 4996-5047.
- [2] C. Roger, Extensions centrales d'algèbres et de groupes de Lie de dimension infinie, algèbre de Virasoro et généralisations, Rep. Math. Phys., 35(1995) 225–266.