Convex topological algebras via linear vector fields and Cuntz algebras

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Abstract. In this talk, we describe realization by linear vector fields for any Lie algebra which admits a biorthogonal system and for its any suitable representation. The embedding into Lie algebras of linear vector fields is in analogue to the classical Jordan-–Schwinger map. A number of examples of such Lie algebras of linear vector fields is computed. In particular, we obtain examples of the twisted Heisenberg-Virasoro Lie algebras and the Schrödinger-Virasoro Lie algebras among others. More generally, we construct an embedding of an arbitrary locally convex topological algebra into the Cuntz algebra. In the end, we give explicit formula of immersion of arbitrary locally convex finite dimensional topological algebra into certain class of dynamical systems.

References

[1] W. Bock, M. Neklyudov, V. Futorny, Convex topological algebras via linear vector fields and Cuntz algebras, arXiv:1909.00856