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Paramétrisation d'orbites dans les nappes de Dixmier admissibles. (Parametrization of orbits in admissible Dixmier sheets). (French) [Zbl 0574.17006](#)

Mém. Soc. Math. Fr., Nouv. Sér. 15, 255-275 (1984).

The purpose of this paper is to prove that the space of orbits in an "admissible" closed Dixmier sheet (nappes de Dixmier) of a complex semisimple Lie algebra \mathfrak{g} is parametrized by an affine space, in other words, to prove that there exists a section of orbits which is an affine space. The author of this paper introduced the notion of admissibility of a subset θ of a basis of the root system of \mathfrak{g} and gave a parametrization of orbits for a suitably defined Dixmier sheet X_θ when θ is an admissible set by utilizing his theory of prehomogeneous vector spaces of parabolic type. This parametrization is a generalization of Kostant's section of the regular elements.

Reviewer: [M.Muro](#)

MSC:

17B10 Representations of Lie algebras and Lie superalgebras, algebraic theory (weights) Cited in 1 Document

17B20 Simple, semisimple, reductive (super)algebras

Keywords:

space of orbits; Dixmier sheet; complex semisimple Lie algebra; affine space; admissibility; parametrization; prehomogeneous vector spaces of parabolic type

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References:

- [1] BORHO W. : Über Schichten halbeinfacher Lie-Algebren , Inv. Math. 65, 1981 , 238-317. MR 83b:17006 | Zbl 0484.17004 · Zbl 0484.17004 · doi:10.1007/BF01389016 · eudml:142852
- [2] BORHO W. , KRAFT H. : Über Bahnen und deren Deformationen bei linearen Aktionen reductiver Gruppen . Comment. Math. Helv. 54, 1979 , 61-104. MR 82m:14027 | Zbl 0395.14013 · Zbl 0395.14013 · doi:10.1007/BF02566256 · eudml:139768
- [3] BOURBAKI N. : Groupes et Algèbres de Lie , chap. 4, 5, 6, Hermann, Paris, 1968 . · Zbl 0186.33001
- [4] DIXMIER J. : Polarisations dans les algèbres de Lie semi-simples complexes , Bull. Sci. Math. 99, 1975 , 45-63. MR 55 #8126 | Zbl 0314.17009 · Zbl 0314.17009
- [5] GODEMENT R. : Quelques résultats nouveaux de Kostant sur les groupes semi-simples . Séminaire Bourbaki n^o 260 Décembre 1963 . Numdam | Zbl 0135.07001 · Zbl 0135.07001 · numdam:SB_1962-1964__8__251_0 · eudml:109661
- [6] JOHNSTON D.S. RICHARDSON R.W. : Conjugacy classes in parabolic subgroups II , Bull. London Math. Soc. 9, 1977 , 245-250. MR 58 #917 | Zbl 0375.22008 · Zbl 0375.22008 · doi:10.1112/blms/9.3.245
- [7] KOSTANT B. : Lie group representations on polynomial rings , Amer. J. Math. vol. 85, 1963 , 327-404. MR 28 #1252 | Zbl 0124.26802 · Zbl 0124.26802 · doi:10.2307/2373130
- [8] KRAFT H. : Parametrisierung von Konjugations klassen in sln . Math. Ann. 234, 1978 , 209-220. MR 58 #11047 | Zbl 0369.17003 · Zbl 0369.17003 · doi:10.1007/BF01420644 · eudml:163134
- [9] RUBENTHALER H. : Espaces préhomogènes de type parabolique , thèse, Préprint IRMA, Strasbourg, 1982 . MR 84j:17009 | Zbl 0546.22019 · Zbl 0546.22019
- [10] RUBENTHALER H. : Espaces préhomogènes de type parabolique , Lect. in Math. Kyoto University n^o 14, 1982 , Kinokuniya Company, Japon, 189-221. MR 84j:17009 | Zbl 0561.17005 · Zbl 0561.17005
- [11] RUBENTHALER H. : Construction de certaines sous-algèbres remarquables dans les algèbres de Lie semi-simples . J. of. Alg. vol. 81, n^o 1, 1983 , 268-278. MR 84g:17010 | Zbl 0527.17003 · Zbl 0527.17003 · doi:10.1016/0021-8693(83)90221-1

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