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in each V'_i with $i \in I$. In particular $\bigcup_i V'_i = M$. Finally $\overline{V'_i} \subset \bigcup_{I \ni i} \overline{U}_I \subset V_i$. This completes the proof of Lemma 4.4. Note that if the V_i were invariant under an action of a compact group G , the U_I could be taken G -invariant also.

REFERENCES

- [1] ALEKSEEV, A., A. MALKIN and E. MEINRENKEN. Lie group valued moment maps. *J. Differential Geom.* 48 (1998), 445–495.
- [2] BEHREND, K., P. XU and B. ZHANG. Equivariant gerbes over compact simple Lie groups. Preprint, 2002.
- [3] BERLINE, N., E. GETZLER and M. VERGNE. *Heat Kernels and Dirac Operators*. Grundlehren der mathematischen Wissenschaften 298. Springer-Verlag, Berlin-Heidelberg-New York, 1992.
- [4] BOTT, R. and L. TU. *Differential Forms in Algebraic Topology*. Graduate Texts in Mathematics 82. Springer-Verlag, New York, 1982.
- [5] BOURBAKI, N. *Éléments de mathématique. Groupes et algèbres de Lie*. Chapitre IV–VI. Hermann, Paris, 1968.
- [6] BRÖCKER, T. and T. TOM DIECK. *Representations of Compact Lie Groups*. Graduate Texts in Mathematics 98. Springer-Verlag, Berlin-Heidelberg-New York, 1985.
- [7] BRYLINSKI, J.-L. Gerbes on complex reductive Lie groups. arXiv:math.DG/0002158.
- [8] ———. *Loop Spaces, Characteristic Classes and Geometric Quantization*. Birkhäuser, Boston, 1993.
- [9] BRYLINSKI, J.-L. and D. A. MCLAUGHLIN. The geometry of degree-four characteristic classes and of line bundles on loop spaces. I. *Duke Math. J.* 75 (1994), 603–638.
- [10] CHATTERJEE, D. On the construction of Abelian gerbe. Ph.D. thesis, University of Cambridge, 1998.
- [11] DUISTERMAAT, J.J. and J.A.C. KOLK. *Lie Groups*. Springer-Verlag, Berlin, 2000.
- [12] DUPONT, J.L. Simplicial de Rham cohomology and characteristic classes of flat bundles. *Topology* 15 (1976), 233–245.
- [13] GAWĘDZKI, K. and N. REIS. WZW branes and gerbes. arXiv:hep-th/0205233.
- [14] GOMI, K. Connections and curvings on lifting bundle gerbes. arXiv:math.DG/0107175.
- [15] GUILLEMIN, V. and S. STERNBERG. *Supersymmetry and Equivariant de Rham Theory*. Springer-Verlag, 1999.
- [16] GURUPRASAD, K., J. HUEBSCHMANN, L. JEFFREY and A. WEINSTEIN. Group systems, groupoids, and moduli spaces of parabolic bundles. *Duke Math. J.* 89 (1997), 377–412.

- [17] HITCHIN, N. Lecture at M.I.T., 1999.
- [18] — Lectures on special Lagrangian submanifolds. In: *Winter School on Mirror Symmetry, Vector Bundles and Lagrangian Submanifolds (Cambridge, MA, 1999)*, 151–182. Amer. Math. Soc., Providence, RI, 2001.
- [19] — What is a gerbe? *Notices of the A.M.S.* (2003), 218–219.
- [20] MACKAAY, M. and R. PICKEN. Holonomy and parallel transport for Abelian gerbes. arXiv:math.DG/0007053.
- [21] MATHAI, V. and D. STEVENSON. Chern character in twisted K-theory: equivariant and holomorphic cases. arXiv:hep-th/0201010.
- [22] MILNOR, J. Construction of universal bundles. II. *Ann. of Math. (2)* 63 (1956), 430–436.
- [23] MOSTOW, M. and J. PERCHIK. Notes on Gelfand-Fuks cohomology and characteristic classes. (Lectures delivered by R. Bott.) In: *Proceedings of the Eleventh Annual Holiday Symposium, New Mexico State University (1973)*, 1–126.
- [24] MURRAY, M. K. Bundle gerbes. *J. London Math. Soc. (2)* 54 (1996), 403–416.
- [25] MURRAY, M. and D. STEVENSON. Bundle gerbes: stable isomorphism and local theory. *J. London Math. Soc. (2)* 62 (2000), 925–937.
- [26] PRESSLEY, A. and G. SEGAL. *Loop Groups*. Oxford University Press, Oxford, 1988.
- [27] SEGAL, G. Classifying spaces and spectral sequences. *Inst. Hautes Études Sci. Publ. Math.* 34 (1968), 105–112.
- [28] SORGER, C. On moduli of G -bundles of a curve for exceptional G . *Ann. Sci. École Norm. Sup. (4)* 32 (1999), 127–133.
- [29] STEVENSON, D. The geometry of bundle gerbes. arXiv:math.DG/0004117.

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