BIBLIOGRAPHY

1. A. Borel, *Groupes linéaires algébriques*, Ann. of Math. vol. 64(1956) pp. 20–80.
2. C. Hermite, *Oeuvres complètes*, Vol. 1, Paris, Gauthier-Villars, 1905.
3. Y. Matsushima, *Espaces homogènes de Stein des groupes de Lie complexes*, Nagoya Math. J. vol. 16 (1960) pp. 205–218.
4. G. D. Mostow, *Self-adjoint group*, Ann. of Math. vol. 62 (1955), pp. 44–55.
5. T. Ono, *Sur une propriété arithmétique des groupes algébriques commutatifs*, Bull. Soc. Math. France vol. 85 (1957) pp. 307–323.
6. K. G. Ramanathan, *Unit of fixed points in involutorial algebras*, Proceedings of the International Symposium on Algebraic Number Theory, Tokyo, 1955.
7. Séminaire S. Lie, *Théorie des algèbres de Lie, Topologie des groupes de Lie*, Paris, 1954–1955.
8. C. L. Siegel, *Einheiten quadratischer Formen*, Abh. Math. Sem. Univ. Hamburg vol. 13 (1939) pp. 209–239.
9. A. Weil, *Discontinuous subgroups of classical groups*, Notes, University of Chicago, 1958.

THE INSTITUTE FOR ADVANCED STUDY AND
COLUMBIA UNIVERSITY

SOME PROPERTIES OF ADELE GROUPS ATTACHED TO ALGEBRAIC GROUPS

BY ARMAND BOREL

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This note is a sequel to the previous one [1], and is devoted to some applications of the results of the latter to adele groups. The results are valid for linear algebraic groups defined over number fields, but this case is easily reduced to that of groups defined over $\mathbf{Q}$ [3, Chapter I], to which we shall limit ourselves for simplicity.

The notation of [1] is freely used. For the unexplained notions concerning adeles, see [2; 3].

1. **Adeles.** Let G be a connected algebraic linear group defined over $\mathbf{Q}$. The adele group attached to G is denoted by G_A. The group $G_{\mathbf{Q}}$ is identified with the subgroup of principal adeles of G_A; it is discrete. We put

$$G_A^0 = G_{\mathbf{R}} \times \prod_{p \text{ prime}} G_{\mathbf{Z}_p} \qquad (\mathbf{Z}_p\text{: ring of } p\text{-adic integers}).$$

By definition, G_A^0, endowed with the product topology, is an open subgroup of G_A. The group G is said to be of type (F) if G_A is the union of a *finite* number of double cosets $G_A^0 \cdot x \cdot G_{\mathbf{Q}} (x \in G_A)$ [2].