

BULLETIN DE LA S. M. F.

A.F. RUSTON

Note on a paper by H. S. Allen

Bulletin de la S. M. F., tome 81 (1953), p. 77

[<http://www.numdam.org/item?id=BSMF_1953__81__77_0>](http://www.numdam.org/item?id=BSMF_1953__81__77_0)

© Bulletin de la S. M. F., 1953, tous droits réservés.

L'accès aux archives de la revue « Bulletin de la S. M. F. » (<http://smf.emath.fr/Publications/Bulletin/Presentation.html>) implique l'accord avec les conditions générales d'utilisation (<http://www.numdam.org/conditions>). Toute utilisation commerciale ou impression systématique est constitutive d'une infraction pénale. Toute copie ou impression de ce fichier doit contenir la présente mention de copyright.

NUMDAM

Article numérisé dans le cadre du programme
Numérisation de documents anciens mathématiques
<http://www.numdam.org/>

NOTE ON A PAPER BY H. S. ALLEN;

By A. F. RUSTON

(London).

In [1] Allen established (theorem 1, p. 233) that the spaces of linear functionals on dual spaces are dual spaces, *provided that the characteristic of the sfield of scalars is not two*. The purpose of this note is to remove this restriction.

In order to do this, we define an alternative bilinear functional on $F^* \times E^*$, relative to which F^* and E^* are dual whatever the characteristic of the sfield K .

Using the notation of [1], we define

$$\{g, f\} = \langle g_2, y_1 \rangle + \langle x_1, y_1 \rangle + \langle x_1, f_2 \rangle.$$

Since this can be written in the two forms

$$\langle g, y_1 \rangle + \langle x_1, f_2 \rangle \quad \text{and} \quad \langle g_2, y_1 \rangle + \langle x_1, f \rangle,$$

it is easily verified that this has all the required properties.

BIBLIOGRAPHY.

- [1] H. S. ALLEN, *Duality of the spaces of linear functionals on dual vector spaces* (Bull. Soc. Math. France, t. 79, 1952, p. 233-235).
-