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P R O B L È M E S

P 630, R 1. The answer is negative [1].

XIX.1, p. 181.

[1] J. van Mill, *A Peano continuum homeomorphic to its own square but not to its countable infinite product*, Proceedings of the American Mathematical Society 80 (1980), p. 703-705.

P 1019, R 1. The answer is positive [2].

XXXVII.2, p. 329.

[2] L. Zajíček, *On preponderant maxima*, this fascicle, p. 289-291.

SIDNEY A. MORRIS (BUNDOORA, VICTORIA)

P 1248 - P 1258. Formulés dans la communication *Varieties of topological groups. A survey.*

Ce fascicule, p. 150, 153, 154, 156, 159 et 161.

DRISS ABOUABDILLAH (RABAT)

P 1259. Formulé dans la communication *Topologies de corps A-linéaires.*

Ce fascicule, p. 179.

JUSSI VÄISÄLÄ (HELSINKI)

P 1260. Formulé dans la communication *Dividing an arc to subarcs with equal chords.*

Ce fascicule, p. 204.

GRZEGORZ ANDRZEJCZAK (ŁÓDŹ)

P 1261. Formulé dans la communication *On regular tangent covectors, regular differential forms, and smooth vector fields on a differential space.*

Ce fascicule, p. 254.

G. H. WENZEL (MANNHEIM)

P 1262. Let R be an associative ring with 1 and let G be a group. Assume that the group ring $R[G]$ is equationally compact as a right $R[G]$-module. Does this imply that G is finite?

Remarks. The answer is positive if $R[G]$ is a strongly equationally compact ring in the sense that the free module $F_{R[G]}(\aleph_0)$ over $R[G]$ in $\aleph_0$ generators is equationally compact. It is also positive if $R[G]$ is self-injective or if $R[G]$ is equationally compact as a ring.

New Scottish Book, Probl. 963, 12. 10. 1981.

H. LEPTIN (BIELEFELD)

P 1263. For a connected Lie group G let $A_p(G)$ be the Figà-Talamanca-Herz algebra on G. Then the test functions $D(G)$ are contained in A_p, hence for $\varphi \in D$ the multiplier norm

$$M_p(\varphi) = \sup\{|\varphi f|_{A_p}: f \in A_p, \ |f|_{A_p} \leqslant 1\}$$

is well defined. For a smooth bounded function χ on G and a compact $K \subset G$ let

$$M_p(\chi, K) = \inf\{M_p(\varphi): \varphi \in D, \ \varphi|_U = \chi|_U\},$$

where U denotes some neighbourhood of K.

How does $M_p(\chi, K)$ grow with K? In particular, for a fixed compact neighbourhood K of $e \in G$, how does $\{M_p(\chi, K^n)\}_n$ behave for $n \to \infty$?

New Scottish Book, Probl. 964, 15. 10. 1981.