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P R O B L È M E S

P 695, R 1. La réponse est négative (¹).

XXII. 1, p. 158 (²).

(¹) Colin C. Graham, *Two remarks on the Fourier-Stieltjes transforms of continuous measures*, Colloquium Mathematicum (à paraître).

(²) Voir aussi S. Hartman et C. Ryll-Nardzewski, *Quelques remarques et problèmes en algèbre des mesures continues*, ibidem 22 (1971), p. 271-277.

P 769, R 1. The author informs that the answer is negative. There exists namely a continuum X such that X is not regular but every subcontinuum C of X contains a point that locally separates C in X. An example can be obtained by taking a suitable monotone decomposition of the continuum Y construced in the proof of Theorem 6 (³).

XXIV. 2, p. 174. Letter of April 24, 1972.

(³) E. D. Tymchatyn, *Continua whose connected subsets are arcwise connected*, Colloquium Mathematicum 24 (1972), p. 169-174.

C. S. HOO (EDMONTON, ALBERTA) AND K. P. SHUM (HONG KONG)

P 796 et **P 797.** Formulés dans la communication *On the nilpotent elements of semigroups*.

Ce fascicule, p. 215 et 216.

J. E. VALENTINE AND S. G. WAYMENT (LOGAN, UTAH)

P 798. Formulé dans la communication *Metric characterizations of hyperbolic and Euclidean spaces*.

Ce fascicule, p. 263.

J. GILEWSKI (WROCŁAW)

P 799. Formulé dans la communication *Generalized convolutions and Delphic semigroups.*

Ce fascicule, p. 289.

J. ŁAWRYNOWICZ (ŁÓDŹ) AND O. TAMMI (HELSINKI)

P 800 et **P 801.** Formulés dans la communication *On estimating a fifth order functional for bounded univalent functions.*

Ce fascicule, p. 313.

W. J. THRON

P 802. Let $\mathscr{L}_F$ be the filter of finite complements on X. Can $\mathscr{L}_F$ be written as the intersection of $|X|$ ultrafilters on X, that is can one express it in the form

$$\mathscr{L}_F = \bigcap \{U_i\colon\ i \in I\},$$

where the U_i's are all ultrafilters on X and the cardinal number of I is equal to the cardinal number of X?

New Scottish Book, Probl. 861, 29. 6. 1971.

J. JEŽEK (PRAHA)

P 803. Let L be an algebraic lattice. Does there exist a groupoid G such that L is isomorphic to the congruence lattice of G?

New Scottish Book, Probl. 862, 29. 10. 1971.

P 804. Let Δ be the similarity type of universal algebras with exactly two unary operation symbols f_1 and f_2. Let $s_1, \ldots, s_n$ be an arbitrary finite sequence composed of these two symbols. Denote by $\mathfrak{A}_{s_1,\ldots,s_n}$ the primitive class of all algebras satisfying $s_1\big(s_2\big(\ldots\big(s_n(x)\big)\ldots\big)\big) = x$. Is it true that in any case the number of all minimal primitive classes contained in $\mathfrak{A}_{s_1,\ldots,s_n}$ is either 1 or 2 or $2^{\aleph_0}$?

New Scottish Book, Probl. 864, 29. 10. 1971.

S. HARTMAN (WROCŁAW)

P 805. On dit qu'un compact $K \subset \boldsymbol{R}$ est associé à un ensemble Λ de nombres réels si, quelle que soit la mesure bornée $\mu \in M(\boldsymbol{R})$, il existe une mesure ν à support dans K telle que, pour les transformées de Fourier $\hat{\mu}$ et $\hat{\nu}$, on ait $\hat{\mu}(\lambda) = \hat{\nu}(\lambda)$, où $\lambda \in \Lambda \setminus \Lambda'$ et Λ' est un ensemble fini ne dépendant que de K. Appelons K associé à Λ au sens restreint, si l'on peut choisir ν discrète (diffuse) si μ est discrète (diffuse). Est-ce que tout compact associé à Λ est associé au sens restreint? Si Λ a un compact associé K, a-t-il également un compact K_1 associé au sens restreint? La première question est signifiante aussi pour $\boldsymbol{T}$ au lieu de $\boldsymbol{R}$ et pour $\Lambda \subset \boldsymbol{Z}$. La seconde le devient si l'on suppose K et $K_1 \neq \boldsymbol{T}$. Si tout intervalle de $\boldsymbol{R}$ (de $\boldsymbol{T}$) est associé à un $\Lambda \subset \boldsymbol{R}$ ($\Lambda \subset \boldsymbol{Z}$), en est-il de même dans le sens restreint? (4)

Nouveau Livre Ecossais, Probl. 866, 5. 12. 1971.

(4) Cf. S. Hartman, *The method of Grothendieck-Ramirez and weak topologies in $C^{(T)}$*, Studia Mathematica (à paraître).

K. URBANIK (WROCŁAW)

P 806. Let D be the space of all functions in the interval $[0, 1]$, continuous from the right and having the left-sided limit, with the topology of Skorohod. Let μ be a Borel measure on D induced by a homogeneous process with independent increments. Show that μ has not the Hilbert structure, i.e., that there does not exist a linear subset $H \subset D$ such that

1° H is μ-measurable,

2° H is a Hilbert space with respect to a μ-measurable scalar product inducing in H a topology stronger than that of Skorohod,

3° $\mu(H) = 1$.

Answer for the Wiener measure is positive (S. Kwapień and M. Gerquin, unpublished).

New Scottish Book, Probl. 867, 8. 12. 1971