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P R O B L È M E S

P 408, R 1. Colin C. Graham gives the following negative solution:

The Cantor-Lebesgue measure σ in T is "coarse" ([1]), so $\limsup|\hat{\sigma}(n)| < 1$ (cf. the proof of Theorem 3.2 loc. cit.). Therefore, $\hat{\sigma}(Z) \neq \{z\colon |z| \leqslant 1\}$. As Šreĭder ([2]) has observed, there exists a generalized character $\chi \in \Delta M(G)$ such that $\chi_\sigma = \frac{1}{2}$ a.e. $d\sigma$. Hence the spectrum of σ in $M(T)$ is $\{z\colon |z| \leqslant 1\}$.

X.1, p. 185. Letter of Colin C. Graham, June 1978.

([1]) See G. Brown and W. Moran, *Bernoulli measure algebras*, Acta Mathematica 132 (1974), p. 77-109, especially p. 81.

([2]) Ю. А. Шрейдер, *Об одном примере обобщенного характера*, Математический сборник 29 (71) (1951), p. 419-426.

P 409, R 1. The answer is no as Colin C. Graham has observed. The measure m in R supported by $[1, \infty)$ and defined there by $dm = (1+x^2)^{-1}dx$ $(x \geqslant 1)$ is not Cauchy, since the function $g(x) = 2^{-x}$ satisfies $g(x+y) = g(x)\cdot g(y)$ identically but is not equal to a character a.e. dm.

X.1, p. 185. Letter of Colin C. Graham, June 1978.

P 525, R 2. Comme l'a remarqué M. K. Głazek, R 1 contient une erreur déformant son sens. En voici l'énoncé correct:

Le problème s'est montré déjà résolu négativement.

XIV, p. 355, et XV.1, p. 158.

JÓZEF SŁOMIŃSKI (TORUŃ)

P 1164. Formulé dans la communication *A representation of the category of algebras over different monads by the category of algebras over one suitable monad in a category of pointed monads.*

Ce fascicule, p. 21.

RICHARD D. BYRD, JUSTIN T. LLOYD AND JAMES W. STEPP (HOUSTON, TEXAS)

P 1165. Formulé dans la communication *On the cardinality of set products in groups.*

Ce fascicule, p. 52.

ANDRZEJ SZYMAŃSKI (KATOWICE)

P 1166 et **P 1167.** Formulés dans la communication *Undecidability of the existence of regular extremally disconnected S-spaces.*

Ce fascicule, p. 62 et 67.

PETER M. GRUBER (WIEN)

P 1168. Formulé dans la communication *Isometrien des Konvexringes.*

Ce fascicule, p. 108.

RYSZARD SMARZEWSKI (LUBLIN)

P 1169. Formulé dans la communication *On characterization of non-linear best Chebyshev approximations.*

Ce fascicule, p. 116.

SAVERIO GIULINI (MILAN)

P 1170 et **P 1171.** Formulés dans la communication *UC-sets in the dual object of compact groups.*

Ce fascicule, p. 148.

K. T. PHELPS (ATLANTA, GEORGIA)

P 1172 et **P 1173.** Formulés dans la communication *On the construction of cyclic quadruple systems.*

Ce fascicule, p. 207.

PIOTR BLASS (NORMAN, OKLAHOMA)

P 1174. Let $f(x, y, z) = 0$ define a surface in Q^3, say F. Let $\bar{Q}$ be the algebraic closure of Q and let $\bar{F}$ be the closure of F in projective space over $\bar{Q}$ (i.e. in $\bar{Q}P^3$). Suppose $\bar{F}$ is non-singular and the degree of f is greater than or equal to 5. Do all integer points of F lie on a finite number of algebraic curves in $\bar{Q}P^3$? (Equivalently: can the integer points be Zariski dense in $\bar{F}$?)

Letter of April 11, 1977.

H. SAYEKI (MONTRÉAL)

P 1175. Soient A et B deux parties de R. Ecrivons $A \prec B$ si A est homéomorphe à une partie de B pour la topologie de R. Si B est indénombrable, existe-t-il toujours un A indénombrable tel que $A \prec B$ et B non $\prec A$?

On sait que la réponse est affirmative en admettant l'hypothèse du continu. Est-ce le cas encore lorsqu'on remplace cette hypothèse par sa négation en admettant l'axiome de Martin?

Nouveau Livre Ecossais, Probl. 935, 23. 8. 1977.

H. KAISER (VIENNA)

P 1176. A universal algebra $\mathfrak{A}$ has the interpolation property if, for all $k \in N$, every k-ary function f: $A^k \to A$ is representable on every finite subset by a polynomial function (3). Find all semigroups which have the interpolation property.

For finite semigroups the solution has been found by H. Kaiser and L. Marki (unpublished).

New Scottish Book, Probl. 937, 6. 12. 1977.

(3) For definition see H. Lausch and W. Nöbauer, *Algebra of polynomials*, North Holland 1973.

P 1177. A universal algebra $\mathfrak{A}$ is called *k-affine complete* if every function f: $A^k \to A$ which is compatible (i.e. assuming the same value on congruent k-tuples) is a polynomial function. Prove or disprove the following conjecture:

If $\mathfrak{A}$ is 2-affine complete, then it is k-affine complete for all $k \in N$.

New Scottish Book, Probl. 938, 6. 12. 1977.