COLLOQUIUM MATHEMATICUM

VOL. XL 1979 FASC. 2

P R O B L È M E S

P 253, R 1. Professor J. Grispolakis kindly informed us that he and Professor E. D. Tymchatyn had jointly solved the problem by showing that a connected and hereditarily locally connected planar space is not the union of countably many, mutually disjoint, non-empty, closed, connected sets.

VI, p. 332. Letter of June 23, 1977.

P 356, R 3. For an uncountable non-abelian group the answer is in general negative ([1]).

IX.1, p. 165, X.1, p. 184, et XI.1, p. 137.

P 418, R 1. The answer is affirmative ([1]).

X.2, p. 366.

([1]) T. M. Rassias, *On certain properties of transformations on infinite groups*, Bulletin de l'Académie Polonaise des Sciences, Série des sciences mathématiques, astronomiques et physiques (submitted).

P 564, R 1. A counterexample has been provided ([2]).

XV.2, p. 320.

([2]) G. M. Rassias, J. M. Rassias and T. M. Rassias, *A counterexample to a conjecture by P. Erdős*, Proceedings of the Japan Academy of Sciences (to appear).

P 942, R 2. The announced example is given ([3]).

XXXIII.1, p. 160.

([3]) S. Hartman et Y. Meyer, *Interpolation harmonique sur les compacts*, ce fascicule, p. 265-276.

P 987, R 1. The answer is affirmative ([4]).

XXXVI.1, p. 163.

([4]) J. Grispolakis and E. D. Tymchatyn, *σ-connectedness in hereditarily locally connected spaces*, Transactions of the American Mathematical Society (submitted).

LECH WITKOWSKI (TORUŃ)

P 1047 et **P 1048.** Formulés dans la communication *On coalgebras and linearly topological rings.*

Ce fascicule, p. 208 et 214.

P 1048, R 1. L'auteur a obtenu lui-même la solution partielle ([5]).

([5]) L. Witkowski, *On coalgebras and linearly topological rings,* ce fascicule, p. 217 (Added in proof).

AUGUST LAU (DENTON, TEXAS)

P 1049 et **P 1050.** Formulés dans la communication *Images of compact 0-dimensional semigroups.*

Ce fascicule, p. 220 et 222.

J. O. POPOOLA (LAGOS) AND I. TWEDDLE (HAMILTON, ONTARIO)

P 1051. Formulé dans la communication *Density character, barrelledness and the closed graph theorem.*

Ce fascicule, p. 257.

S. HARTMAN (WROCŁAW) ET Y. MEYER (PARIS)

P 1052 - P 1055. Formulés dans la communication *Interpolation harmonique sur les compacts.*

Ce fascicule, p. 268, 273 et 275.

P 1052 - P 1055, R 1. Les solutions se trouvent dans le travail par Głowacki ([6]).

([6]) P. Głowacki, *On decomposition of pseudomeasures on some subsets of lca groups,* ce fascicule, p. 277-285.

J. A. JOHNSON (STILLWATER, OKLAHOMA)

P 1056. Formulé dans la communication *A note on the predual of* $\mathrm{Lip}(S, d)$.

Ce fascicule, p. 289.

CHRISTOPH BANDT (GREIFSWALD)

P 1057. Formulé dans la communication *On the permeability of submeasures on finite algebras.*

Ce fascicule, p. 317.

T. INGLOT (WROCŁAW)

P 1058. Formulé dans la communication *An elementary approach to the zero-one laws for Gaussian measures.*

Ce fascicule, p. 324.

P 1058, R 1. La part deux du problème a été resolu par l'auteur ([7]).

([7]) T. Inglot, *An elementary approach to the zero-one laws for Gaussian measures*, ce fascicule, p. 324.

P. K. PATHAK (ALBUQUERQUE, NEW MEXICO)

P 1059. Does there exist a sequence (X_n) of independent and identically distributed random variables with $EX_n = 0$ and for which

$$\sum_{n=1}^{\infty} S_n^+/n < \infty$$

with probability 1, where $S_n^+ = \max(0, X_1 + \ldots + X_n)$?

New Scottish Book, Probl. 931, 17. 5. 1977.

P 1060. Let μ be a probability measure defined on the Borel sets on the real line. Let

$$S(\mu) = \left\{t: \int e^{itx}\, d\mu(x) = 0\right\}.$$

Under what necessary and sufficient conditions on the set $S(\mu)$ does there exist at least one set $A \subset \boldsymbol{R}$ with $0 < \mu(A) < 1$ and $\mu(A+x) = \mu(A)$ for all $x \in \boldsymbol{R}$?

New Scottish Book, Probl. 932, 17. 5. 1977.

THEMISTOCLES M. RASSIAS (BERKELEY, CALIFORNIA)

P 1061. Consider M to be a C^∞-manifold modelled over a Hilbert space H. Let M be homotopically equivalent to a finite CW-complex with n cells. Is there a closed embedding $f: M \to H$ such that, for almost all linear functionals $g: H \to \boldsymbol{R}$, $g \circ f: M \to \boldsymbol{R}$ is non-degenerate with at most $2n$ critical points?

P 1062. Consider f and g to be *involutions* (i.e. homeomorphisms of period 2) of the Hilbert cube Q ($Q = I^\infty$) each having exactly one fixed point. Does there exist a homeomorphism $\varphi: Q \to Q$ such that $f = \varphi^{-1} \circ g \circ \varphi$?

P 1063. Does there exist a complete, closed, non-orientable immersed minimal surface in $\boldsymbol{R}^3$?