

ERRATA

PUBLICATIONES MATHEMATICAE

Tomus 3.

Correction to "Abelian groups in which every serving subgroup is a direct summand" by L. FUCHS, A. KERTÉSZ and T. SZELE, *Publ. Math.*, 3 (1953), 95—105.

L. KULIKOV pointed out in his review (Реф. Журнал, 1955, review 4891) that Theorem 3 of this paper is false and the correct statement may be found in ČERNIKOV's paper Группы с системами дополняемых подгрупп (Докл. АН СССР, 92 (1953), 891—894). Here we give the correction of Theorem 3.

THEOREM 3. *A mixed abelian group G has Property P if and only if G is the direct sum of a torsion group T and a torsion free group F which are of Property P .*

In fact, if G is a mixed group with Property P , then its torsion subgroup T is a serving subgroup and hence a direct summand of G , $G = T + F$. Lemma 1 implies that both T and F have Property P .

Conversely, let G be the direct sum of a torsion group T and a torsion free group F , both of Property P . If H is a serving subgroup of G , then $S = H \cap T$ being the torsion subgroup of H is serving in G and hence serving in T . By hypothesis we obtain $T = S + U$ for some $U \subseteq T$, hence $G = T + F = S + (U + F)$. The latter decomposition applied to H implies $H = S + J$ ($J \subseteq U + F$), since S lies in H . J is clearly torsion free, hence the second components in the decomposition $U + F$ of the elements of J form a subgroup J' of F which is isomorphic to J ; the serving character of H in G implies that of J' in F , whence $F = J' + K$. Now observe that $H \subseteq S + U + J'$, but no subgroup of U belongs to H , so that $H + U = S + U + J'$, thus we obtain $G = T + F = S + U + J' + K = H + (U + K)$, q. e. d.

By the Theorem 1a, 2a and 3 we have that an abelian group G has the Property P if and only if it is of the form

$$(*) \quad G = T + F = \sum_r 3_r(p_i^{n_i}) + \sum_{\mu} R_{\mu},$$

where $n_i = 1, 2, \dots, m_i$ or ∞ for some fixed integers m_i and the groups R_{μ} are isomorphic to some subgroup of the additive group $\mathfrak{R}$ of all rational

numbers such that those R_α which are isomorphic to proper subgroups of $\mathfrak{R}$ are finite in number and isomorphic to each other. (Some direct summands may be absent!)

We are indebted to VLASTIMIL DLAB for the following remark:

Every serving subgroup H of G is isomorphic to the direct sum of some direct summands from the mentioned decomposition (*).

This is indeed an easy consequence of some theorems concerning isomorphisms of direct decompositions of abelian groups.

S. 123, Z. 3 von unten

statt (2') lösbar lies (2') nur dann lösbar

S. 125, Z. 10 von unten

statt (3) lies (3')

S. 126, Z. 5 von oben

Z. 17 von oben

Z. 10 von unten

statt (3) lies (3')

S. 128, Z. 9 von oben

Z. 11 von oben

Z. 16 von oben

Z. 19 von oben

statt (1) lies (4)

p. 218, line 14 from below

replace $\mathbf{f}(\gamma, \theta) = 0$ and $\theta \in \Phi(\gamma; \mathbf{f})$ by $\mathbf{f}(\gamma, \vartheta) = 0$ and $\vartheta \in \Phi(\gamma; \mathbf{f})$

p. 219, line 10 from below

replace $\xi \in \Phi(r_i; \mathbf{f}) = \Pi(\alpha)$ by $\xi \in \Psi(r_i; \mathbf{f}) = \Pi(\alpha)$

line 3 from below

replace $\mathbf{k}(\alpha \cdot \beta) = 1$ if $\mathbf{f}(\alpha) \leq \beta$ by $\mathbf{k}(\alpha, \beta) = 1$ if $\mathbf{f}(\alpha) \leq \beta$.

p. 269, line 3 from below

replace $X \cap (T - Y) + (T - X) \cap Y$ by $X \cap (T - Y) \cup (T - X) \cap Y$.

line 1 from below

replace $X - Y \in I$ by $X \dot{-} Y \in I$.

S. 299, Z. 17 von oben

statt a) und c), als lies a) als.