Correction to the paper “On a kind of uniform distribution of values of multiplicative functions in residue classes”,
Acta Arithmetica 31 (1976), pp. 291–294

by

W. NARKIEWICZ (Wrocław)

1. Professor R. Warlimont kindly pointed out to me that the definition of Dirichlet-WUD (mod N) given in Section 2 of the above paper does not ensure that the Dirichlet series occurring in it have the asserted abscissas of absolute convergence. This can be repaired, without affecting the results and later applications, by restricting the definition of Dirichlet-WUD (mod N) to those multiplicative functions f which satisfy the following condition:

If \( m = m(f, N) \) is the smallest integer (if it exists) such that the series \( \sum p^{-1} \) (with \( p \) running over all primes for which \( f(p^m), N = 1 \)) diverges, and \( m \geq 2 \), then for all \( j \leq m - 1 \) the series \( \sum p^{-(1/m + \varepsilon)} \) (with \( p \) running over all primes for which \( f(p^j), N = 1 \)) converges for all positive \( \varepsilon \).

2. The same error found its way also to [1], pp. 62–63, where the same amendment should be made, and the argument following the definition of Dirichlet-WUD should be disregarded.

The applications of this notion given in [1] are unaffected, since for functions considered there the additional condition stated above is anyway true, however one has to amend the definition of decent functions given on pp. 71–72 by adding to it that in the case when \( a(r, j) = 0 \) holds for \( r = 1, 2, \ldots, n \) and all \( j \) prime to \( N \), then the series \( \sum p^{-1} \) (where \( p \) runs over all primes with \( f(p^j) \equiv f (mod N) \)) should represent a function regular in \( Res > 1/(n + 1) \).

Reference


Received on 31.1.1985