so that $\sum_{m=}^{\infty} |A_m(f, 0)| = \infty$. It remains to show that $f(x) \subset L$ which is easily seen since

$$\int_{-\pi}^{\pi} | f(x) | \, dx = \sum_{i=0}^{\infty} 2^{-i} \int_{-\pi}^{\pi} | f_{n_i}(x) | \, dx$$

$$\leqq \sum_{i=0}^{\infty} 2^{-i} 2(n+1) \frac{\pi}{3(n+1)} < \infty .$$

We notice that, since this function vanishes in the neighborhood of the origin, it coincides with a function having an absolutely summable Fourier series in the neighborhood of the origin, and therefore absolute summability $C(1)$ is not a local property.

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COMPLETE REDUCIBILITY OF FORMS[1]

RUFUS OLDENBURGER

1. **Introduction.** We shall say that F is a form in *r essential variables* with respect to a field K if F cannot be brought by means of a nonsingular linear transformation in the field K to a form with less variables. Let F be a form of degree p written as $a_{ij\cdots k}x_ix_j \cdots x_k$, $(i, j, \cdots, k=1, 2, \cdots, n)$. We arrange the coefficients of F in a matrix A whose n^{p-1} columns are of the form

$$\left\| \begin{matrix} a_{1j\cdots k} \\ a_{2j\cdots k} \\ \vdots \\ a_{nj\cdots k} \end{matrix} \right\| .$$

The index i is associated with the rows of A and the $p-1$ indices $j, \cdots, k$ are associated with the columns of A. We assume that the coefficients in F are so chosen that A is *symmetric* in the sense that the value of an element $a_{ij\cdots k}$ is unchanged under permutation of the subscripts. It can be shown[2] that F is *a form in r essential variables if and only if the rank of A is r.*

A form F is said to be *completely reducible* in a field K if F splits

[1] Presented to the Society, April 7, 1939.

[2] Oldenburger, *Composition and rank of n-way matrices and multilinear forms,* Annals of Mathematics, (2), vol. 35 (1934), pp. 622–653.