tiguous to P, but increasing from one interval to another, and a sequence $\{m_k\}$ such that $\int_0^{2\pi}\sin^2 m_k x\, dF < 1/k^4$. Hence

$$\sum_1^\infty k^2 \int_0^{2\pi} \sin^2 m_k x\, dF < \infty.$$

Hence "almost everywhere" in P, that is to say, in a subset P_1 of P such that the variation of F over $P-P_1$ is zero, $\sum_1^\infty k^2 \sin^2 m_k x < \infty$. But

$$\sum_1^k |\sin m_k x| < \left(\sum_1^k \frac{1}{k^2}\right)^{1/2} \left(\sum_1^k k^2 \sin^2 m_k x\right)^{1/2};$$

hence $\sum |\sin m_k x|$ converges in P_1, and P is "almost everywhere" of the type R (and also, almost everywhere, a set of absolute convergence).

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UNITARY SPACES WITH CORRESPONDING GEODESICS[1]

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1. Introduction. This paper is divided into three parts. In the first section, the notation and fundamental concepts of hermitian geometry are reviewed. The second section develops the equations of geodesic curves X_1 which depend on a *real parameter* (t) and which are imbedded in a unitary space of n-dimensions K_n. Our principal result is: The equations of such geodesics differ from the equations of geodesics in Riemannian space in that the former contain the torsion affinor. In the third section, we classify the connections of two unitary spaces K_n, $'K_n$ whose geodesics correspond. First, we find the necessary and sufficient conditions that two unitary spaces K_n, $'K_n$ both with symmetric connection shall have their geodesics in correspondence. This last problem is solved in exactly the same manner as the similar problem in Riemannian space.[2] Secondly, we prove that if K_n has torsion and $'K_n$ has no torsion (symmetric connection), then their geodesics do not correspond. The problem of determining all connections of unitary spaces K_n, $'K_n$ both with torsion whose geodesics correspond is left open.

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[1] Presented to the Society, January 1, 1941.

[2] L. P. Eisenhart, *Riemannian Geometry*, Princeton University Press, 1926, p. 131.