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ANOTHER OBSERVATION ON THE DISTRIBUTION OF VALUES OF CONTINUED FRACTIONS $K(a_n/1)$

WALTER M. REID

Offered in celebration of the 70th birthday of William B. Jones
Dedicated to the memory of Wolfgang J. Thron
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ABSTRACT. Jacobsen, Thron and Waadeland [**1**] determined results about the probability distribution for the values f of convergent continued fractions $K(a_n/1)$ in the case that the elements a_n are uniformly distributed both over the "real Worpitzky inverval" $[-\rho(1-\rho), \rho(1-\rho)]$ and over the complex Worpitzky disk $\{z : |z| \leq \rho(1-\rho)\}$, for $0 < \rho \leq \frac{1}{2}$. This note explores extensions of some of those results in the case that the elements a_n are piecewise linearly distributed, with symmetry about zero, on the real Worpitzky interval.

1. Introduction. We are considering the values of continued fractions of the form

$$K_{n=1}^{\infty}\left(\frac{a_n}{1}\right) = \frac{a_1}{1+}\;\frac{a_2}{1+}\;+\cdots+\;\frac{a_n}{1+}\cdots \tag{1.1}$$

where the $a_n \neq 0$ are taken from the real Worpitsky interval

$$W = [-\rho(1-\rho),\ \rho(1-\rho)] \tag{1.2}$$

for $0 < \rho \leq \frac{1}{4}$. This interval is known to be a convergence region for (1.1). The values, f, of (1.1) are known to fill in the best limit value interval

$$V = [-\rho,\ \rho]. \tag{1.3}$$

Here, however, we assume that the a_n have a known distribution on (1.2); the problem is to determine the distribution of the values,

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