1014-39-167 **William F. Trench*** (`wtrench@trinity.edu`), 95 Pine Lane, Woodland Park, CO 80863.

Absolute equal distribution of the eigenvalues of discrete Sturm-Liouville problems.

We consider the asymptotic relationship as $n \to \infty$ between the eigenvalues $\lambda_{1n} \le \cdots \le \lambda_{nn}$ and $\mu_{1n} \le \cdots \le \mu_{nn}$ of the Sturm–Liouville problems defined for $n \ge 2k+1$ by

$$\sum_{\ell=0}^{k} (-1)^\ell \Delta^\ell \left(r_{\ell n}(i-\ell) \Delta^\ell x_{i-\ell} \right) = \lambda \phi_{in} x_i, \quad 1 \le i \le n,$$

and

$$\sum_{\ell=0}^{k} (-1)^\ell \Delta^\ell \left(s_{\ell n}(i-\ell) \Delta^\ell x_{i-\ell} \right) = \mu \psi_{in} x_i, \quad 1 \le i \le n,$$

where $x_i = 0$ if $-k+1 \le i \le 0$ or $n+1 \le i \le n+k$, all quantities are real, and ϕ_{in}, $\psi_{in} > 0$, $1 \le i \le n$, $n \ge 2k+1$. We give conditions implying that

$$\lim_{n\to\infty} \frac{1}{n} \sum_{i=1}^{n} |F(\lambda_{in}) - F(\mu_{in})| = 0$$

for all $F \in C(-\infty, \infty)$ such that $\lim_{x\to-\infty} F(x)$ and $\lim_{x\to\infty} F(x)$ exist (finite). (Received August 05, 2005)