

2841

For  $n \geq j_*$ ,

$$|Y_n(x)| \leq \sum_{j=0}^n |a_j x^j| \sum_{k=n+1}^{\infty} |b_k x^k|$$

$$+ \sum_{j=n+1}^{\infty} |a_j x^j| \sum_{k=0}^n |b_k x^k|$$

$$\leq F(x) \sum_{k=n+1}^{\infty} \lambda^k$$

$$+ G(x) \sum_{j=n+1}^{\infty} \lambda^j$$

$$= \frac{(F(x) + G(x)) \lambda^{n+1}}{1 - \lambda} \rightarrow 0 \text{ as } n \rightarrow \infty$$