

$\text{Var } Y_i$

$$\sum_{n=1}^{\infty} \frac{1}{k_n} \text{Var}(Y_i)$$

Check if you have  
this bit of the proof  
down

$$k_n \geq i$$

$$k_{N_i} \leq \alpha i$$

$$k_{N_i} \geq i$$

$k_n$

$$k_{N_i-1} < i$$

$$k_n \geq i$$

$$\Rightarrow k_{N_i} \leq \alpha k_{N_i-1} < \alpha i$$

$\text{Var } Y_i$

$$\sum_{i=1}^{\infty} \sum_{n \geq N_i} \frac{1}{k_n} \text{Var}(Y_i)$$

$$\sum_{n \geq N_i} \frac{1}{k_n}$$