APPENDIX I

6.1 The relation (3.66) of chapter 3

I have to show that (equation (3.66) chapter 3)

$$I_1(t,\mu) = 0 \tag{6.1}$$

For this , with usual notation (vide, Chandrasekhar, 1960) I have

$$I_1^*(t,\mu) \simeq \frac{1}{2}(1-\lambda)\sum_{\alpha=1}^{n}\left\{ L_\alpha e^{-k_\alpha t} \; / \; (1+\mu k_\alpha)\right\} \tag{6.2}$$

where the constants L_α are determined by the equations

$$\sum_{\alpha=1}^{n}\left\{ L_\alpha \; / \; (1-\mu_i k_\alpha)\right\} = 0 \; , \; (i = 1,2,3 \; .... \; n) \tag{6.3}$$

Since

$$\prod_{\alpha=1}^{n}(1-\mu k_\alpha)\sum_{\alpha=1}^{n} L_\alpha \; / \; (1-\mu k_\alpha) \tag{6.4}$$

is a polynomial of degree (n − 1) with n distinct zero , it is identically zero.

Hence , every $L_\alpha = 0$, and in the limit , as n ——> α

$$I_1^*(t,\mu) = 0 \; . \tag{6.5}$$

which is the required relation.