

List of figures

<u>Fig.No.</u>	<u>Title</u>	<u>Page No.</u>
1.1	Figure showing the reference to bioluminescence in the Chinese "Book of Odes" with commentaries	25
1.2	Figure showing the early definition of luminescence by Licetues as appears in his book.	25
1.3	The luminescence center and its excitation	26
1.4	Energy states for fluorescence & phosphorescence	27
1.5	Configuration coordinate curve model	28
1.6	Energy band model	29
1.7	Schon -Klasen's model	29
1.8	Lambe-Klick's model	30
1.9	Williams and Prener's model	30
1.10	Electroluminescence in forward biased P-N junction	31
1.11	Electroluminescence in Hetero junction	31
1.12	Electroluminescence in Schottky barrier	31
1.13	Electroluminescence in MSI structure	31
1.14	Electroluminescence due to radiative tunneling	31
1.15	Accelaration collision EL	31
2.1	X-ray diffraction pattern	58
2.2	Photograph of PL set-up	59
2.3	Photograph of TL set-up	59
2.4	Photograph of EL set-up	60
2.5	Photograph of wideband amplifier	60
2.6	Photograph of Four probe set up	61
2.7	Block diagram of PL set up	62
2.8	PM Housing assembly	63
2.9	Spectral response of PM tube	64
2.10	Block diagram of TL set up	65
2.11	Block diagram of EL set up	66

2.12	Schematic diagram of EL cell	67
3.1 to 3.3	Decay curves at 300°k	88 to 90
3.4 to 3.8	Plots of log I versus log t	91 to 95
3.9	Variation of decay constant with concentration	96
3.10	Plot between $1/\sqrt{I}$ and t	97
3.11 to 3.15	Peeling off of decay curves	98 to 102
3.16	Plot of I versus t^{-1}	103
3.17	Plot of I.t versus log t	104
4.1	TL glow curve for SD 13	138
4.2	Energy band model of TL	139
4.3	Temperature profile of linear temperature programmer	140
4.4 to 4.13	Glow curves for different phosphors (uv excited)	141 to 150
4.14	Variation of peak intensity with concentration	151
4.15	Arrhenius plot (Initial rise method)	152
4.16	Plots of log I versus time (isothermal decay)	153
4.17	Plots of $1/\sqrt{I}$ versus time (isothermal decay)	154
4.18	Dose dependence (I versus T plot)	155
4.19	Dose dependence (intensity versus excitation time)	156
4.20 to 4.24	Glow curves for γ irradiated samples	157 to 161
5.1	Plot of B versus V	182
5.2	Plot of log B/V versus $1/V$	183
5.3	Plot of log B/V versus $1/\sqrt{v}$	184
5.4	Plot of log B versus V	185
5.5	Plot of log B versus $1/V$	186
5.5	Plot of log B versus $1/\sqrt{v}$	187

5.7 to 5.11	Plots of log B versus log V	188 to 192
5.12 to 5.14	Plots of log B versus log f	193 to 195
5.15	* Plots of Brightness versus Power and Relative efficiency versus power	196
5.16	Photograph of hit brightness waves	197
6.1	Plot of $\log_{10} \rho$ versus $1/T$ °K	203