

by
Winton George Aubert
B.S., Louisiana State University, 1974
December, 1975

Dedicated to
my parents

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENT	· iii
LIST OF TABLES	· v
LIST OF FIGURES	· vi
ABSTRACT	· vii
CHAPTER	
I. Introduction	1
II. Reactor Kinetics and Inverse Kinetics.	8
III. Experimental Techniques and Results.	18
IV. Conclusions and Recommendations.	31
REFERENCES	34
APPENDIX A	36
APPENDIX B	39
VITA	41

LIST OF TABLES

	PAGE
• • •	11
• • •	22
• • •	25
• • •	27

LIST OF FIGURES

1
2
3
4
5
6
7
8
9

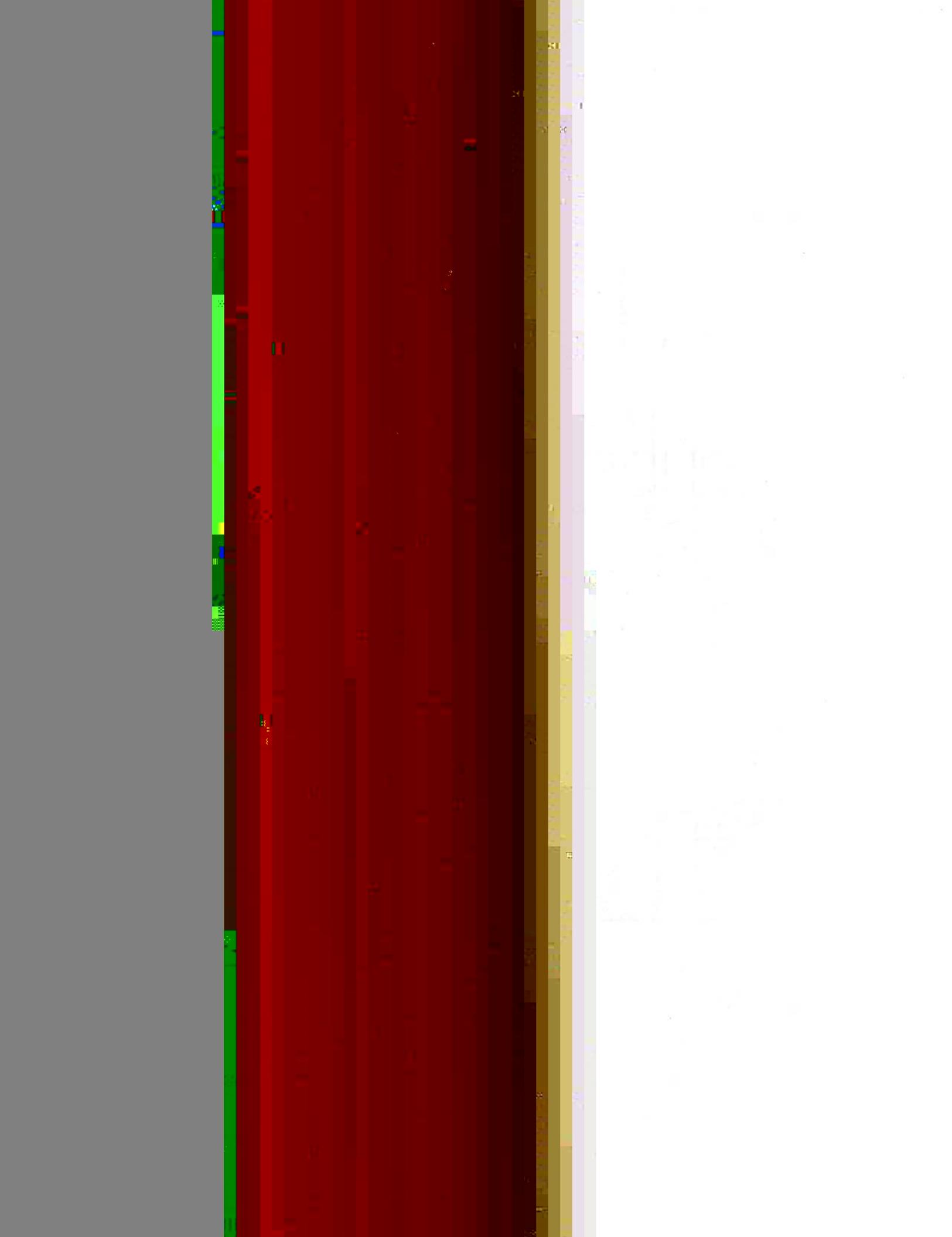






Figure I-2. Reactor Arrangement

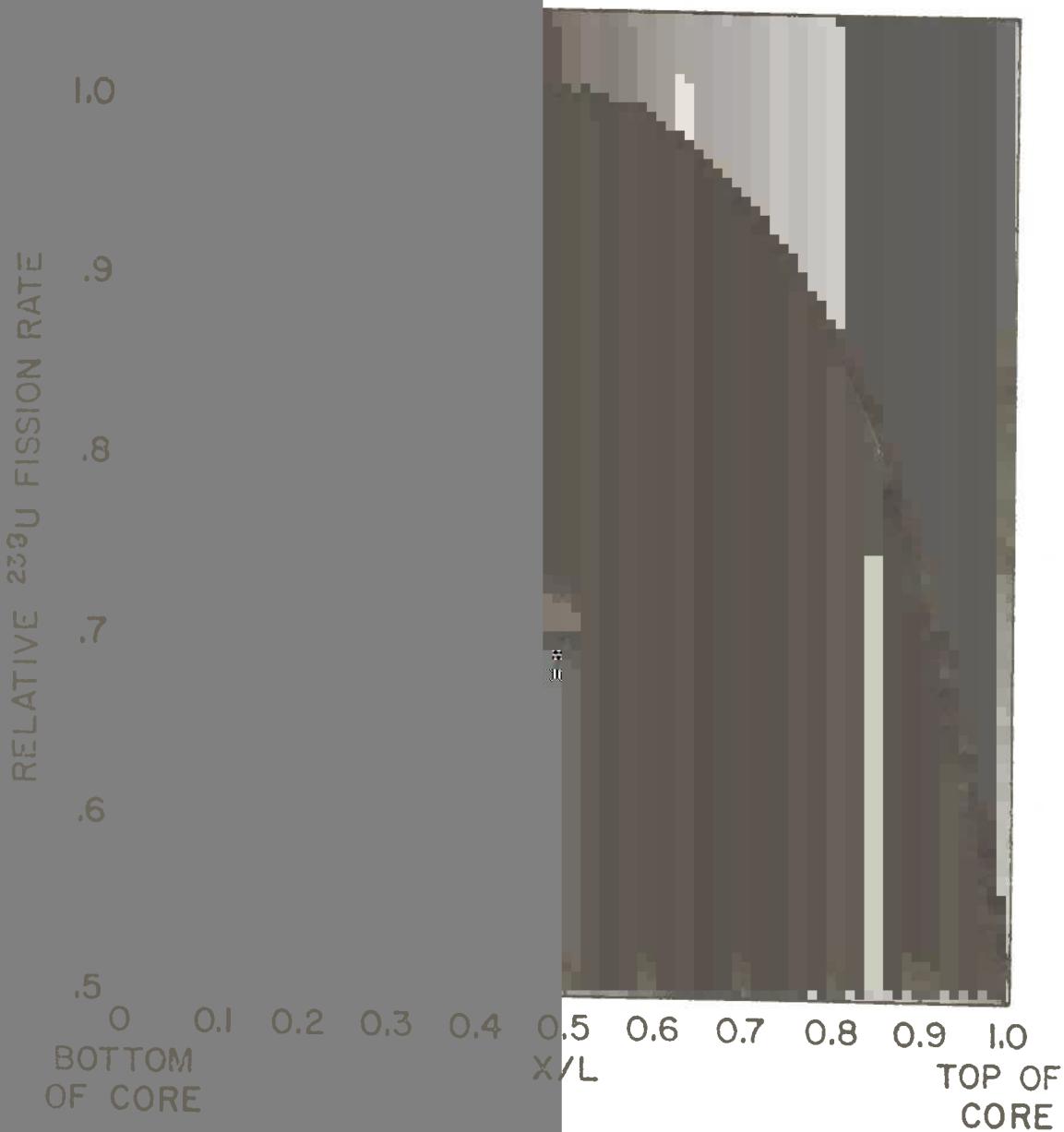
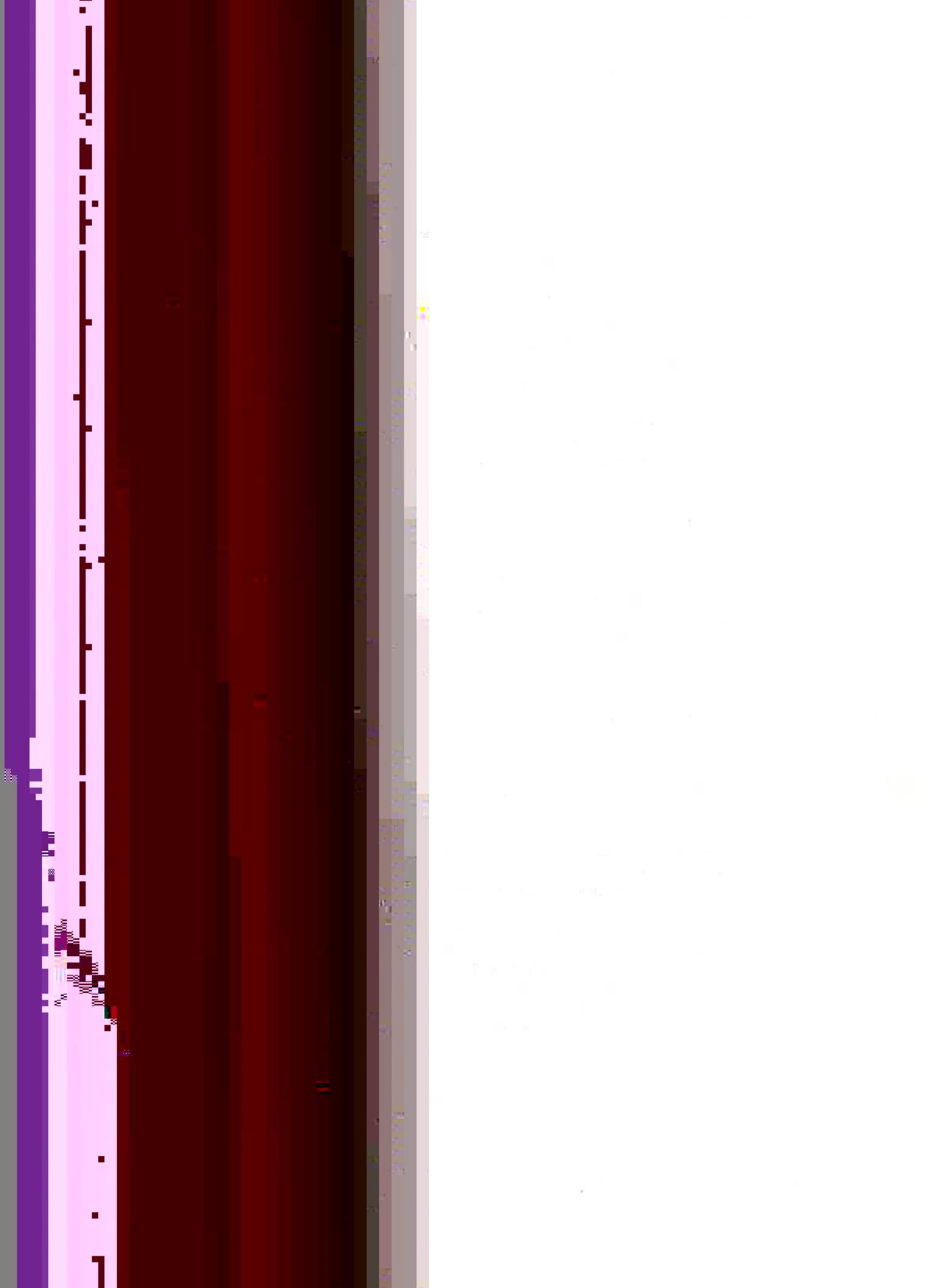


Figure I-3. Axial Distribution of ^{238}U Fission Rate in Driver Fuel in the EBR-II Core

M

Figure I-4. Axial Distribution of ^{239}Pu Fission Rate in Driver Fuel in the EBR-II Core



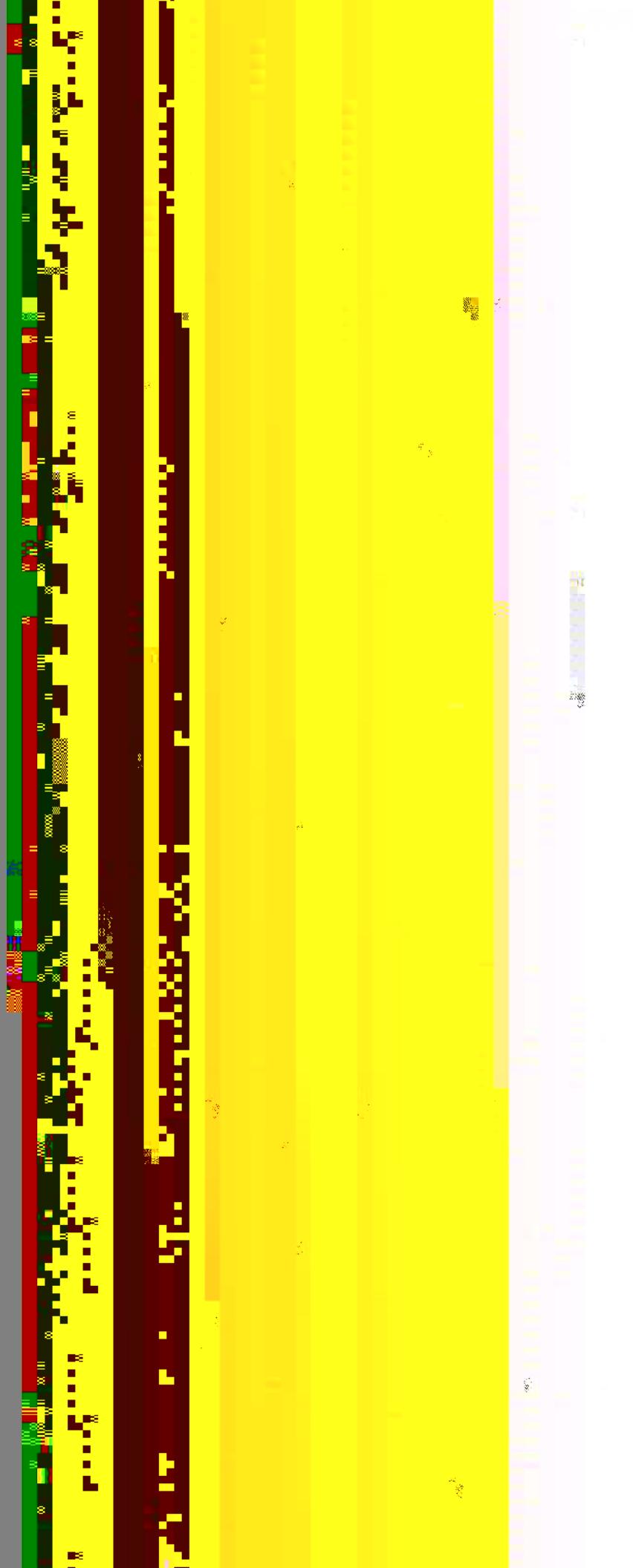
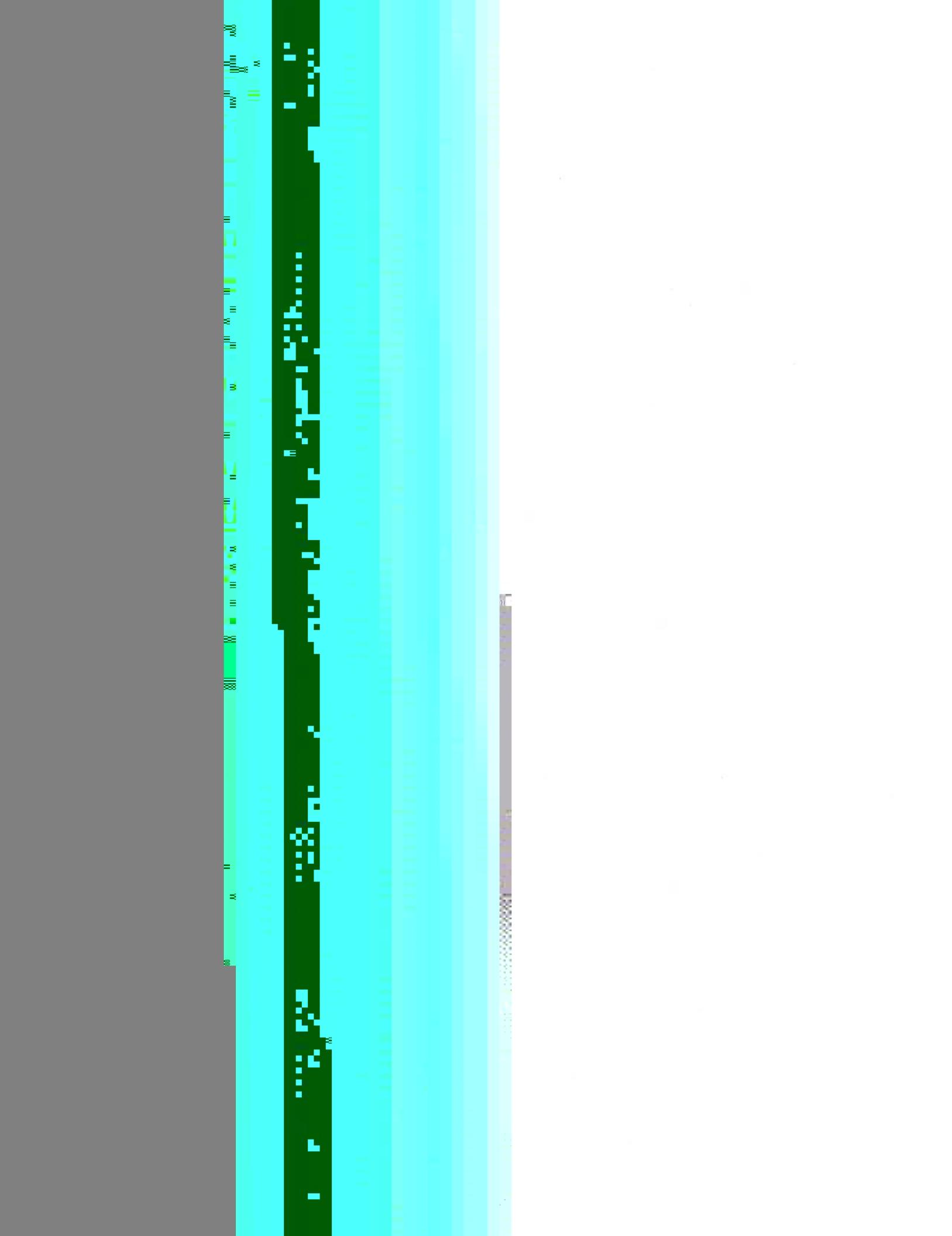




Table II-1. Delayed Neutron Data⁽¹¹⁾

1	54.58	0.0127
2	21.87	0.0317
3	6.03	0.115
4	2.23	0.311
5	0.50	1.40
6	0.18	3.87





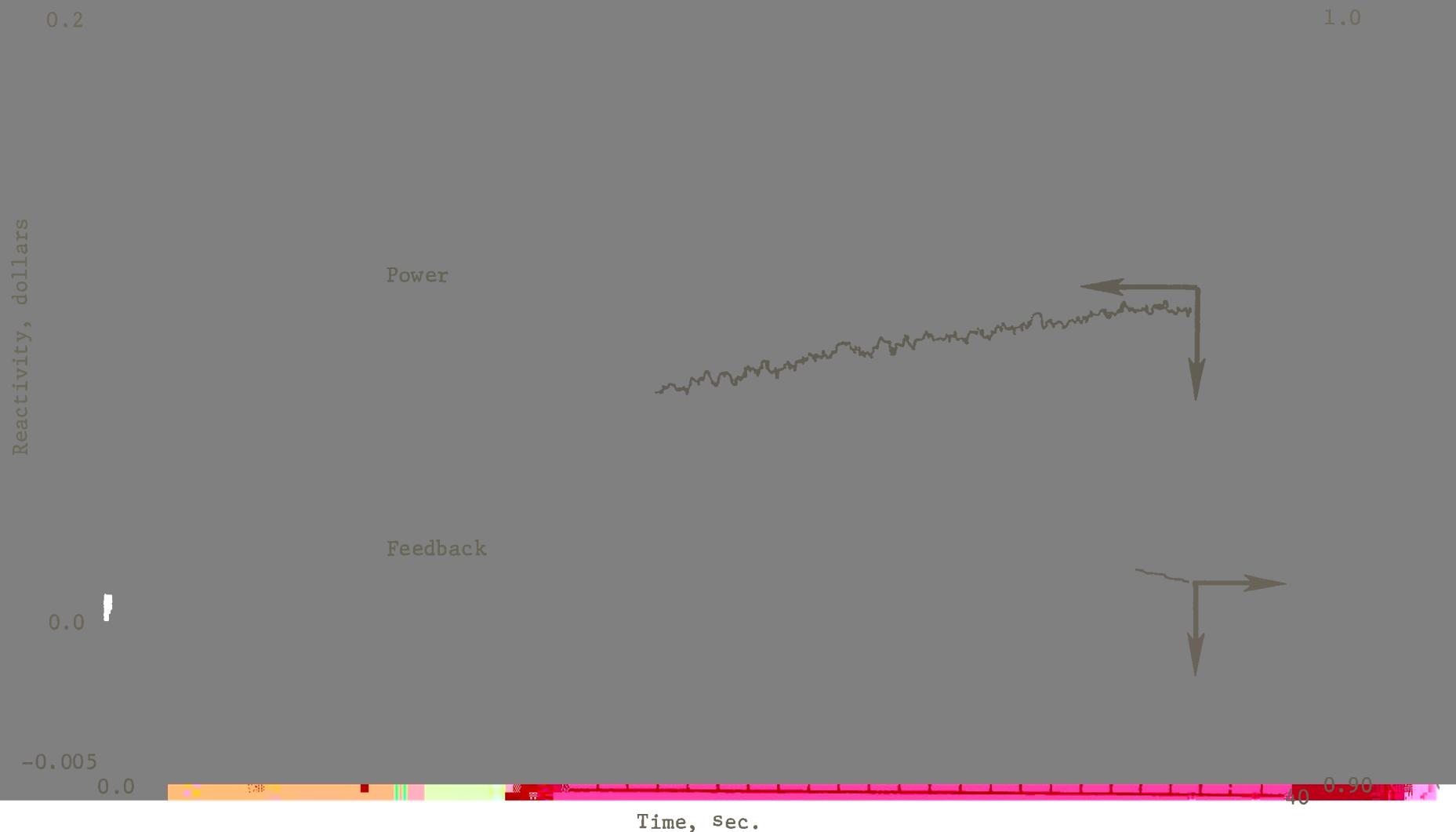
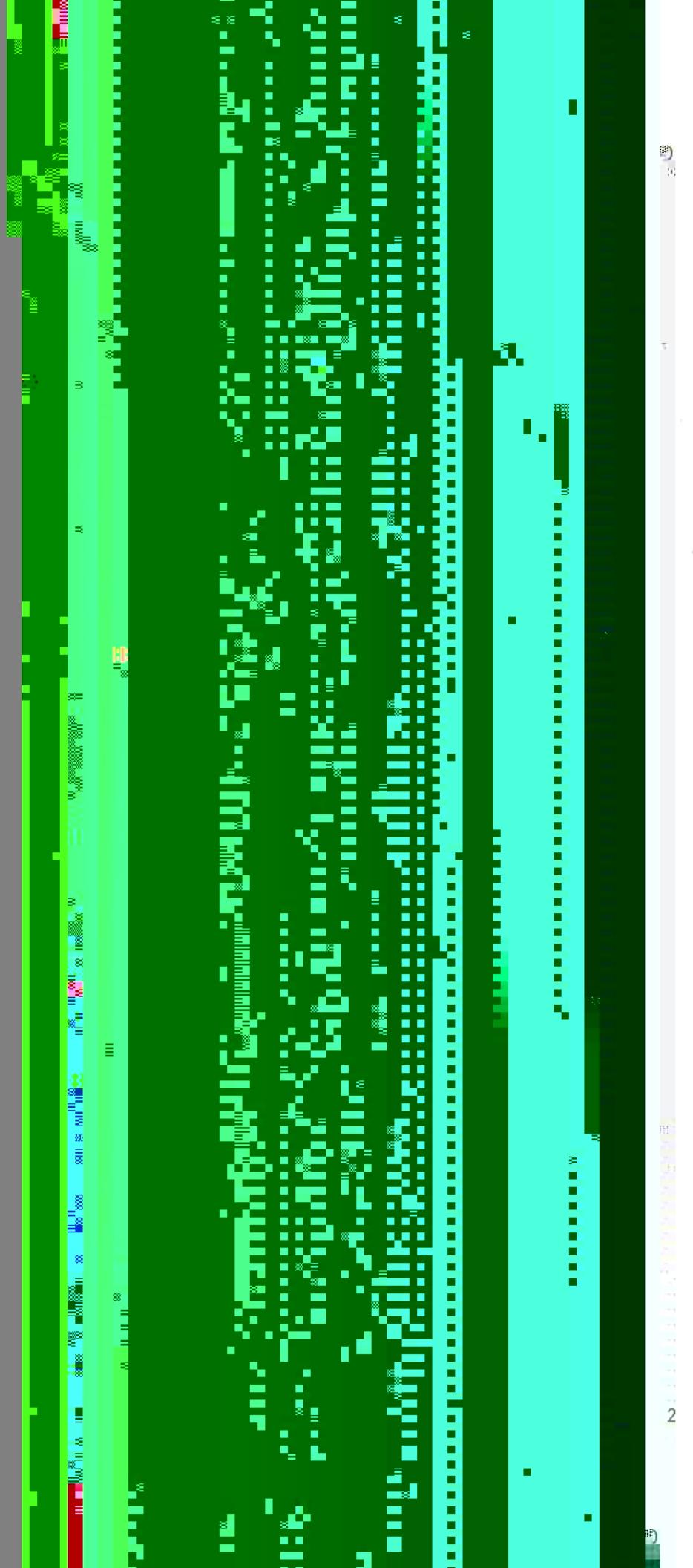


Figure II-1. Plot of Reactivity and Power vs Time, the Reactivity Plotting Code Output



2

1. *Explanatory variables*

1.1. *Demographic variables*

1.1.1. *Age*

1.1.2. *Gender*

1.1.3. *Education level*

1.1.4. *Marital status*

1.1.5. *Employment status*

1.1.6. *Family size*

1.1.7. *Number of children*

1.1.8. *Number of dependents*

1.1.9. *Number of household members*

1.1.10. *Number of household members*

1.1.11. *Number of household members*

1.1.12. *Number of household members*

1.1.13. *Number of household members*

1.1.14. *Number of household members*

1.1.15. *Number of household members*

1.1.16. *Number of household members*

1.1.17. *Number of household members*

1.1.18. *Number of household members*

1.1.19. *Number of household members*

1.1.20. *Number of household members*

1.1.21. *Number of household members*

1.1.22. *Number of household members*

2. *Dependent variables*

2.1. *Health outcomes*

2.1.1. *Health status*

2.1.2. *Health care utilization*

2.1.3. *Health care costs*

2.1.4. *Health care satisfaction*

2.1.5. *Health care quality*

2.1.6. *Health care access*

2.1.7. *Health care coverage*

2.1.8. *Health care services*

2.1.9. *Health care providers*

2.1.10. *Health care facilities*

2.1.11. *Health care services*

2.1.12. *Health care services*

2.1.13. *Health care services*

2.1.14. *Health care services*

2.1.15. *Health care services*

2.1.16. *Health care services*

2.1.17. *Health care services*

2.1.18. *Health care services*

2.1.19. *Health care services*

2.1.20. *Health care services*

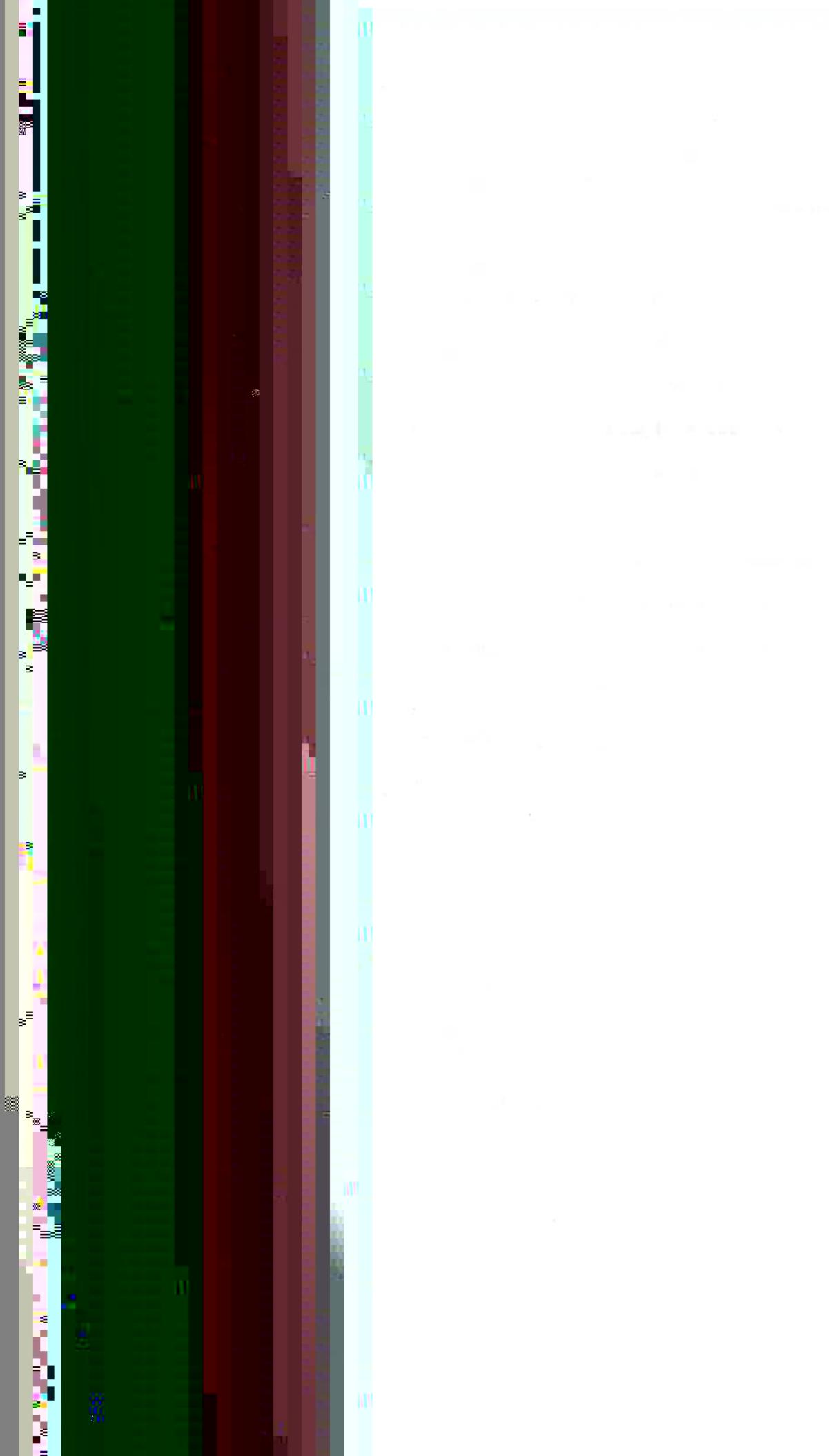
2.1.21. *Health care services*

2.1.22. *Health care services*

Table III-1. Errors Induced in Feedback Reactivity

100

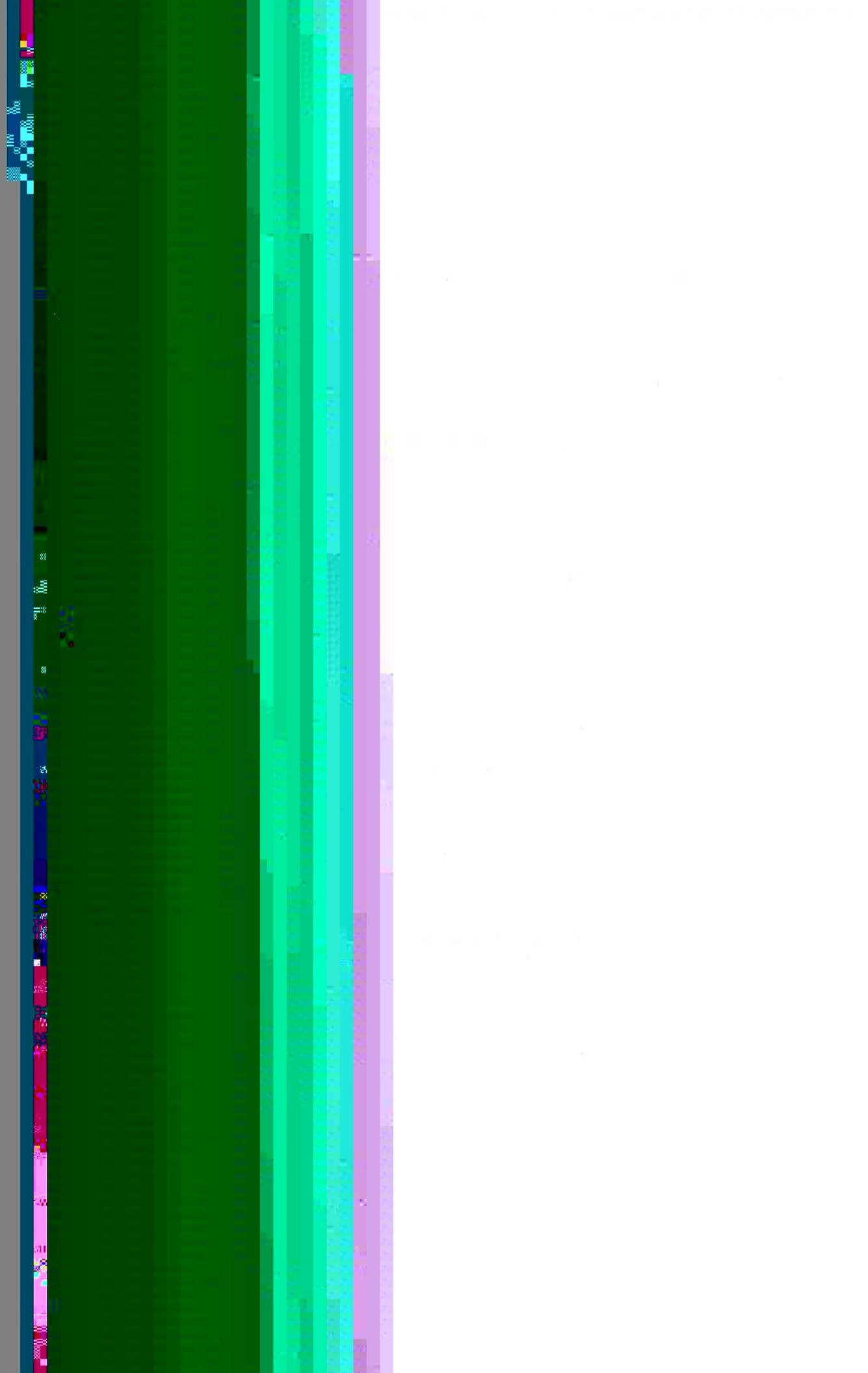




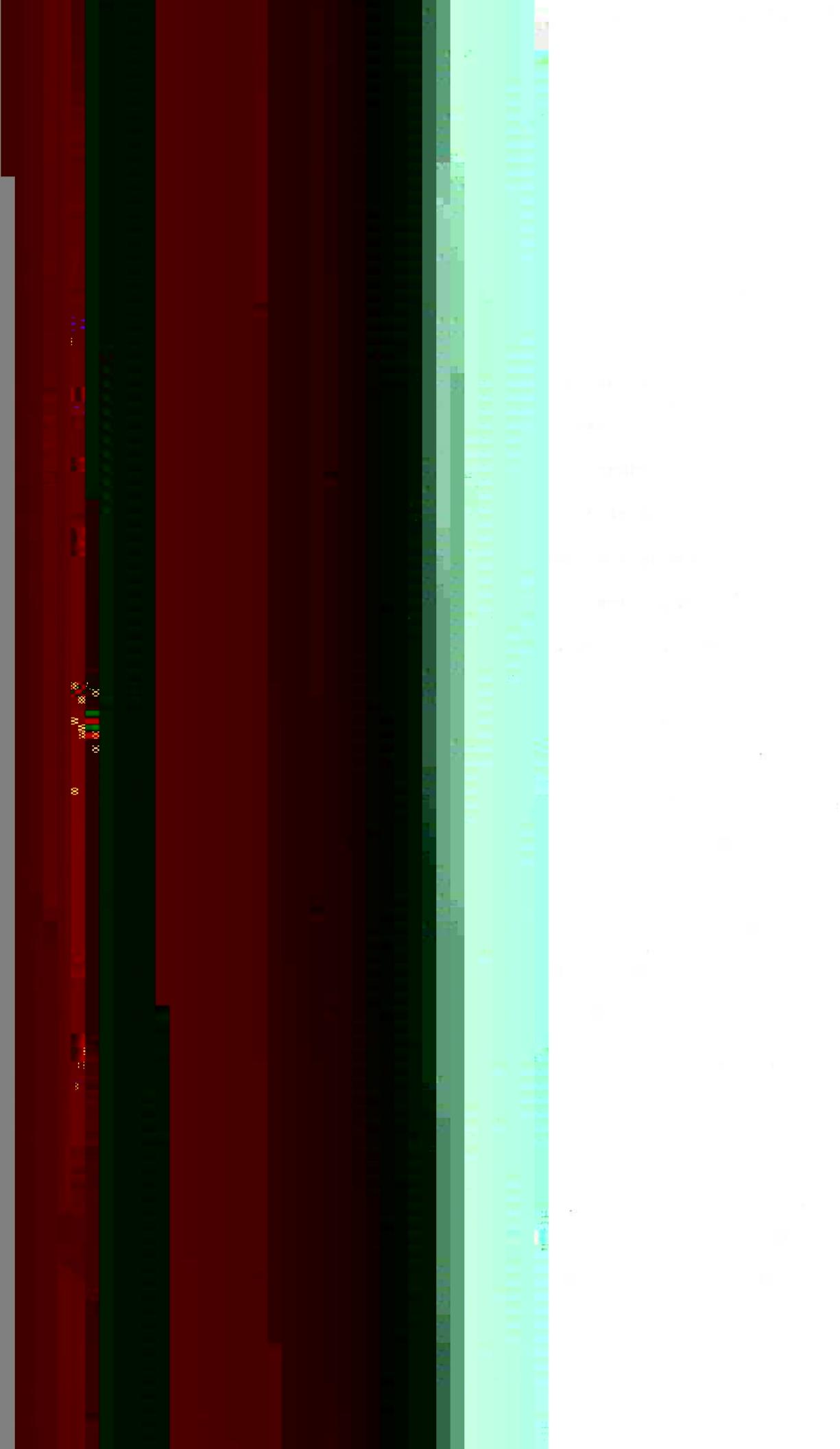
(III-13)

(III-14)

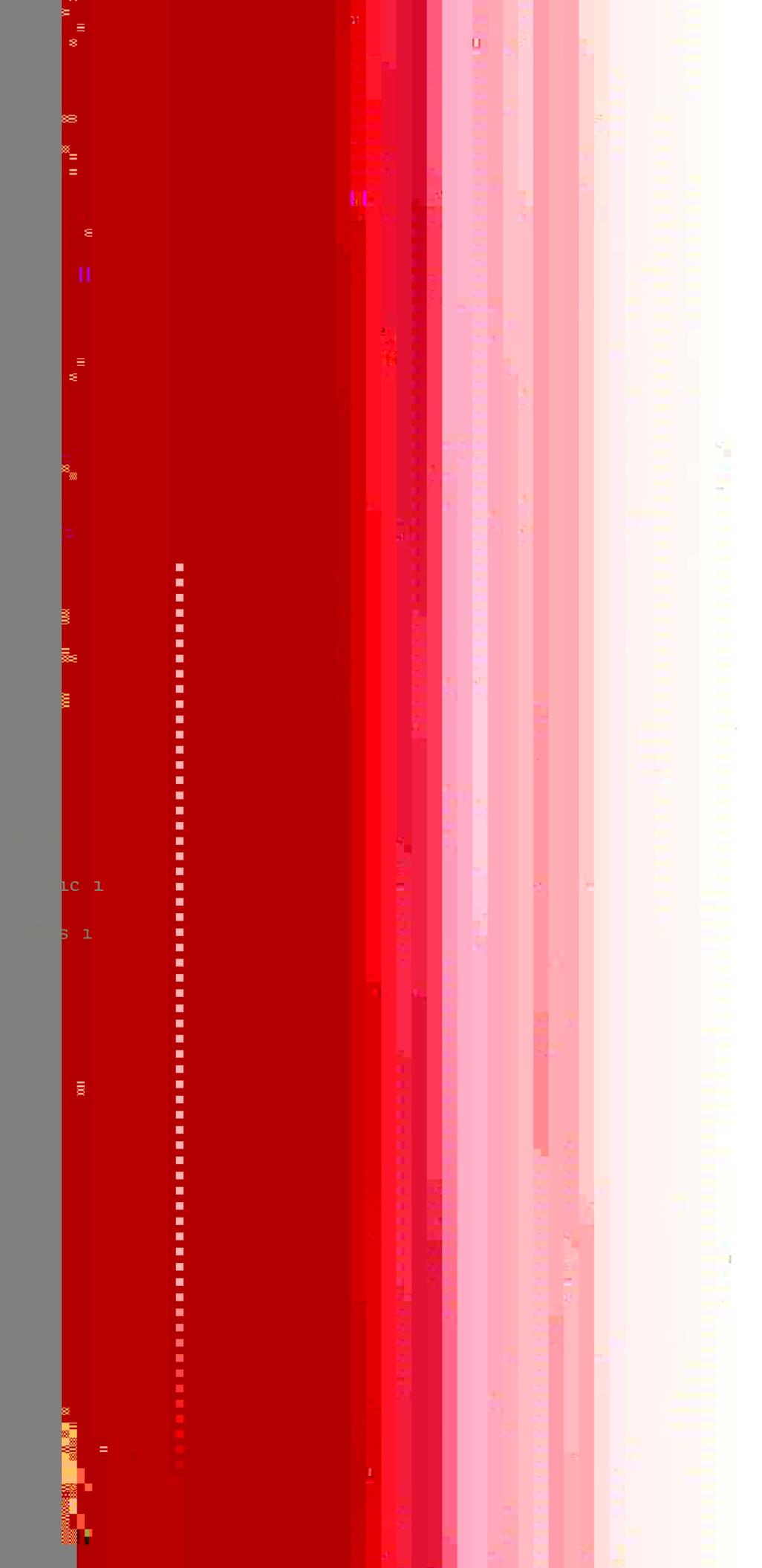
(III-15)

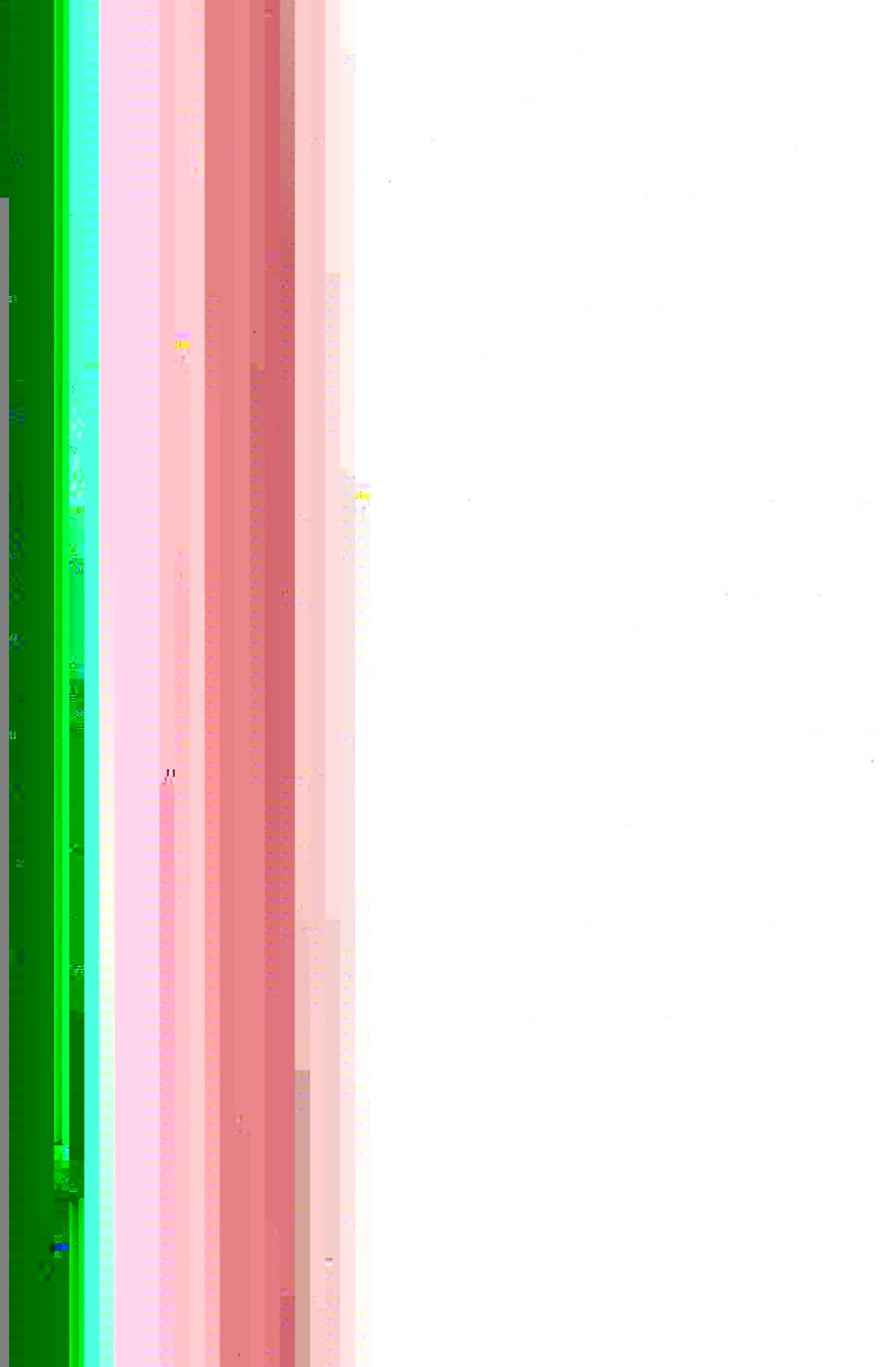


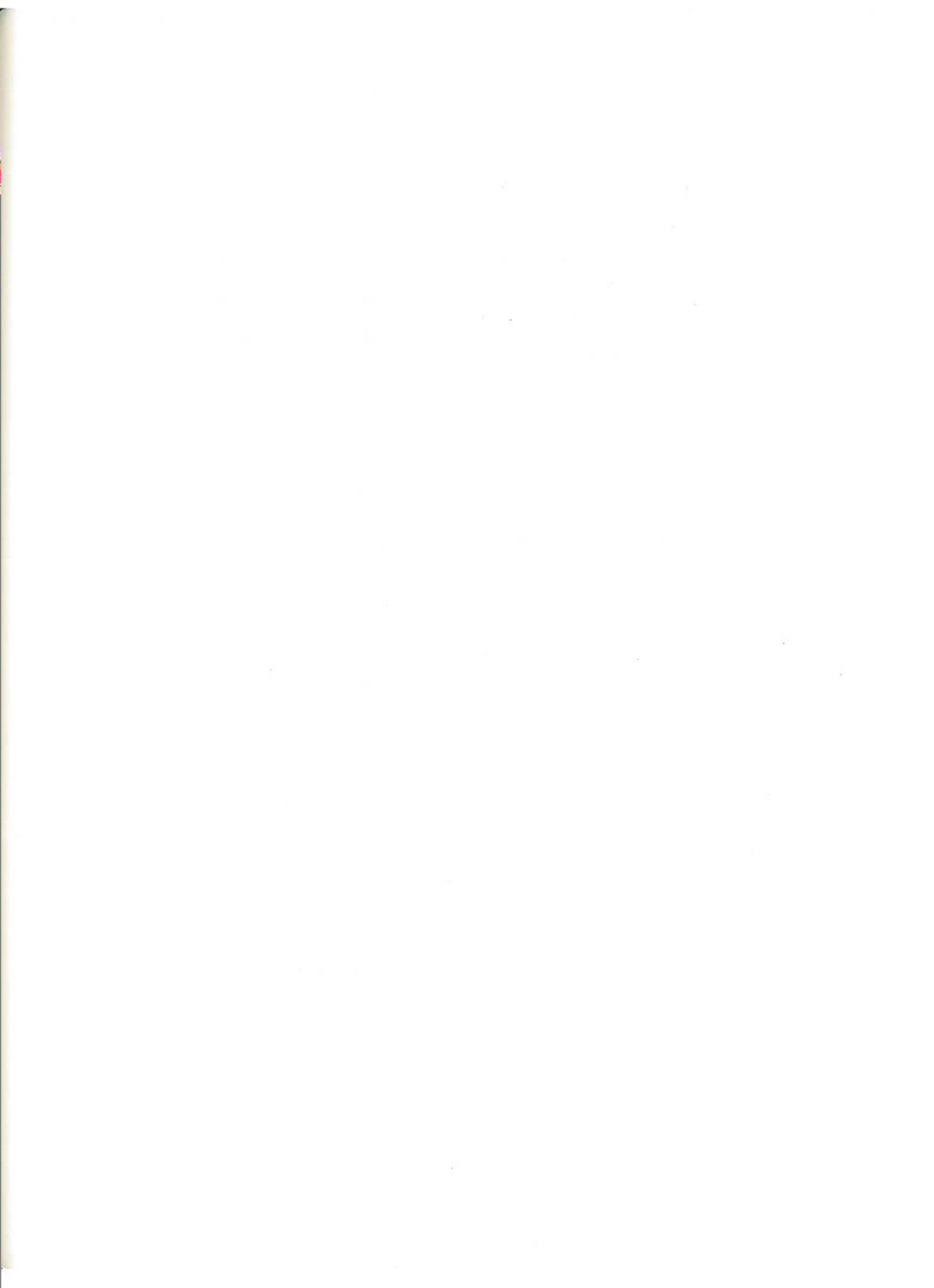


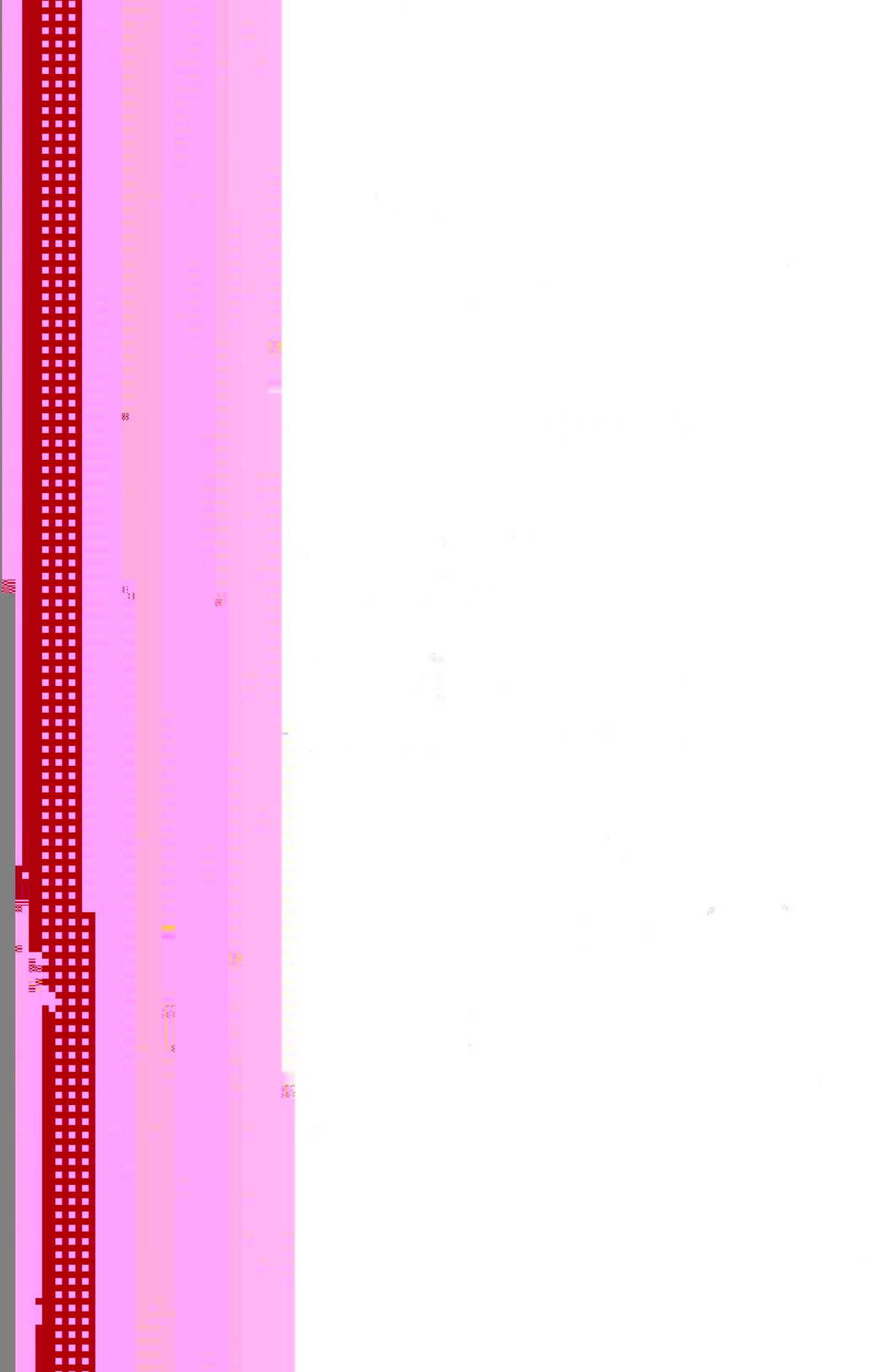


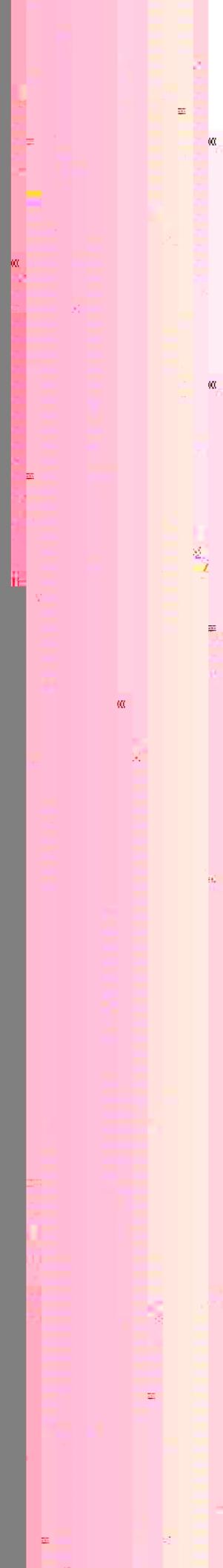












EXAMINATION AND THESIS REPORT

EXAMINING COMMITTEE:

Kalut (111/11 Geng

Myron H. Young

Praude A. Young

Date of Examination:

November 24, 1975