

DAFTAR ISI

	Halaman
HALAMAN JUDUL	i
HALAMAN SYARAT	ii
HALAMAN MOTTO	iii
HALAMAN PERSEMBAHAN	iv
HALAMAN PENGESAHAN	v
HALAMAN PERNYATAAN	vi
ABSTRAK	vii
KATA PENGANTAR	viii
DAFTAR ISI	x
DAFTAR TABEL	xiv
DAFTAR GAMBAR	xvi
BAB I PENDAHULUAN	1
1.1 Latar Belakang Masalah	1
1.2 Rumusan Masalah	3
1.3 Batasan Masalah	3
1.4 Tujuan	4
1.5 Sistematikan Penulisan	4
BAB II LANDASAN TEORI	6
2.1 Suara Jantung	6
2.2 <i>Phonocardiogram</i>	8

2.3 Noise	9
2.3.1 Gaussian Noise.....	9
2.4 Wavelet	10
2.4.1 Transformasi Wavelet	11
2.4.2 Dekomposisi Wavelet	12
2.4.3 Discrete Wavelet Transform	14
2.4.4 Mother Wavelet	16
2.4.5 Wavelet Daubechies	17
2.5 Adaptive Thresholding	18
2.6 Threshold Rules	19
2.6.1 Global Thresholding	19
2.6.2 Level Dependent Threshold.....	20
2.7 Parameter Pengujian	21
2.7.1 Signal to Noise Ratio (SNR)	21
2.7.2 Mean Square Error (MSE)	21
2.7.3 Energi	22
2.7.4 Normalisasi Energi	23
BAB III METODE PENELITIAN	24
3.1 Metode Penelitian	24
3.1.1 Sinyal PCG	26
3.1.2 Noise	26

3.1.3 Adaptive Thresholding.....	27
3.1.4 Denoising.....	28
3.1.5 Discrete Wavelet Transform.....	29
3.1.6 Energi Dekomposisi	
dan Normalisasi Energi Dekomposisi	32
3.2 Flowchart Program pembangkitan <i>Guassian Noise</i>	33
3.3 Flowchart Program <i>denoising</i>	
dengan metode <i>Hard thresholding</i>	35
3.4 Flowchart Program <i>denoising</i>	
dengan metode <i>Soft thresholding</i>	36
3.5 Flowchart Program Energi Dekomposisi	
dan Normalisasi Energi	38
3.6 Flowchart Program perhitungan.....	
nilai <i>Signal to Noise Ratio</i> (SNR).....	40
3.7 Flowchart Program perhitungan.....	
nilai <i>Mean Square Error</i> (MSE).....	41
BAB IV HASIL DAN PEMBAHASAN	42
4.1 Kebutuhan Sistem	42
4.2 Pengujian Program.....	42
4.3 Tujuan	43
4.4 Prosedur Pengujian Penelitian	43
4.5 Hasil Pengujian Program Pembangkitan <i>Guassian Noise</i>	45

4.6 Hasil Pengujian Program <i>Denoising</i>	46
4.6.1 <i>Global Thresholding</i>	47
a. <i>Hard Thresholding</i>	47
b. <i>Soft Thresholding</i>	48
4.6.2 <i>Adapt Threshold</i>	50
a. <i>Hard Thresholding</i>	50
4.7 Hasil Pengujian Program Energi Normalisasi.	52
4.7.1 Hasil Program Energi <i>daubechies</i> orde 2	52
a. <i>Hard Thresholding</i>	52
b. <i>Soft Thresholding</i>	55
4.7.2 Hasil Program Energi <i>daubechies</i> orde 7	59
a. <i>Hard Thresholding</i>	59
b. <i>Soft Thresholding</i>	62
4.8 Hasil Program <i>Signal to Noise Ratio</i> (SNR).....	65
4.9 Hasil Program <i>Mean Square Error</i> (MSE).....	65
4.10 Hasil Perbandingan SNR terhadap MSE	67
4.11 Uji Coba Pada Sinyal PCG real	68
BAB V PENUTUP	73
5.1 Kesimpulan	73
5.2 Saran	74
DAFTAR PUSTAKA	75