

## **LAMPIRAN**

## **LAMPIRAN A**

### ***LISTING PROGRAM***

```
% Baca data dari file Excel
data= readtable('C:\Users\LENOVO\Documents\MATLAB\Dataset1.xlsx');

% Tampilkan beberapa baris data untuk memverifikasi
disp(head(data));

% Misalkan kolom data adalah 'Time', 'Voltage1', 'Current1', 'Voltage2', 'Current2'
% dan data diambil per satuan waktu tertentu (5 menit).

% Ekstrak data waktu dan arus untuk kedua baterai
time = data.Time; % Kolom waktu
voltage1 = data.Voltage1; % Tegangan baterai 1
current1 = data.Current1; % Arus baterai 1
voltage2 = data.Voltage2; % Tegangan baterai 2
current2 = data.Current2; % Arus baterai 2

% Konversi data waktu menjadi format datetime jika diperlukan
if iscell(time)
    time = datetime(time, 'InputFormat', 'MM/dd/yyyy, HH:mm:ss'); % Ganti format sesuai file
end

% Konversi waktu ke detik dari awal pengukuran
time_seconds = seconds(time - time(1));

% Asumsikan kapasitas baterai dalam mAh
C_nominal1 = 20800; % Kapasitas nominal baterai 1 (Lithium ion)
C_nominal2 = 20243; % Kapasitas nominal baterai 2 (VRLA)

% Inisialisasi SOC awal (misalnya 100%)
```

```
SOC1 = 100 * ones(size(time_seconds));  
SOC2 = 100 * ones(size(time_seconds));
```

```

% Hitung SOC berdasarkan arus dan waktu
for i = 2:length(time_seconds)
    delta_t = time_seconds(i) - time_seconds(i-1); % Selisih waktu dalam detik
    % Perubahan SOC untuk baterai 1
    SOC1(i) = SOC1(i-1) - (current1(i) * delta_t / 3600) / C_nominal1 * 1000 * 100;
    % Perubahan SOC untuk baterai 2
    SOC2(i) = SOC2(i-1) - (current2(i) * delta_t / 3600) / C_nominal2 * 1000 * 100;
end

% Hitung DOD sebagai 100% - SOC
DOD1 = 100 - SOC1;
DOD2 = 100 - SOC2;

% Plot hasil
figure;
subplot(2,1,1);
plot(time, SOC1, 'b', 'DisplayName', 'SOC Baterai 1');
hold on;
plot(time, SOC2, 'r', 'DisplayName', 'SOC Baterai 2');
xlabel('Waktu');
ylabel('State of Charge (SOC) [%]');
legend;
title('State of Charge (SOC) Baterai');

subplot(2,1,2);
plot(time, DOD1, 'b', 'DisplayName', 'DOD Baterai 1');
hold on;
plot(time, DOD2, 'r', 'DisplayName', 'DOD Baterai 2');
xlabel('Waktu');
ylabel('Depth of Discharge (DOD) [%]');
legend;
title('Depth of Discharge (DOD) Baterai');

```

## LAMPIRAN B

### DATA PENGUJIAN

**Data 13 Juni 2024**

| Waktu       | Vmp     | Imp   | % SoC | Baterai 1 |       | % SoC | Baterai 2 |       |
|-------------|---------|-------|-------|-----------|-------|-------|-----------|-------|
|             |         |       |       | I         | V     |       | I         | V     |
| 12:00:00 AM | 0.0030  | 0.003 | 67    | 13980.55  | 12.39 | 72    | 14612.76  | 13.59 |
| 12:30:00 AM | 0.0030  | 0.003 | 61    | 12938.88  | 12.26 | 63    | 13571.09  | 13.42 |
| 1:00:00 AM  | 0.0031  | 0.003 | 56    | 11897.22  | 12.15 | 58    | 12529.43  | 13.27 |
| 1:30:00 AM  | 0.0031  | 0.003 | 51    | 10855.55  | 12.03 | 53    | 11487.76  | 13.13 |
| 2:00:00 AM  | 0.0031  | 0.003 | 46    | 9813.88   | 11.92 | 48    | 10446.09  | 12.98 |
| 2:30:00 AM  | 0.0031  | 0.003 | 41    | 8772.22   | 11.81 | 42    | 9404.43   | 12.84 |
| 3:00:00 AM  | 0.0030  | 0.003 | 36    | 7730.55   | 11.70 | 37    | 8362.76   | 12.67 |
| 3:30:00 AM  | 0.0031  | 0.003 | 31    | 6688.88   | 11.59 | 32    | 7321.09   | 12.52 |
| 4:00:00 AM  | 0.0030  | 0.003 | 26    | 5647.22   | 11.47 | 27    | 6279.43   | 12.38 |
| 4:30:00 AM  | 0.0030  | 0.003 | 21    | 4605.55   | 11.36 | 22    | 5237.76   | 12.23 |
| 5:00:00 AM  | 0.0030  | 0.003 | 19    | 4268.00   | 11.32 | 20    | 4196.09   | 12.09 |
| 5:30:00 AM  | 0.0031  | 0.003 | 19    | 4268.00   | 11.32 | 20    | 4156.00   | 12.06 |
| 6:00:00 AM  | 1.3891  | 0.395 | 19    | 4268.00   | 11.32 | 20    | 4156.00   | 12.06 |
| 6:30:00 AM  | 3.9358  | 1.115 | 19    | 4268.00   | 11.32 | 20    | 4156.00   | 12.06 |
| 7:00:00 AM  | 7.4495  | 2.109 | 19    | 4268.00   | 11.32 | 20    | 4156.00   | 12.06 |
| 7:30:00 AM  | 10.3829 | 2.939 | 19    | 4268.00   | 11.32 | 20    | 4156.00   | 12.06 |
| 8:00:00 AM  | 12.0269 | 3.404 | 37    | 7795.49   | 11.72 | 38    | 7325.45   | 12.52 |
| 8:30:00 AM  | 13.1229 | 3.714 | 67    | 14159.51  | 12.39 | 69    | 12998.96  | 13.33 |
| 9:00:00 AM  | 19.6989 | 5.574 | 94    | 19765.00  | 13.00 | 97    | 19345.00  | 14.25 |

|            |         |       |    |          |       |    |          |       |
|------------|---------|-------|----|----------|-------|----|----------|-------|
| 9:30:00 AM | 24.8244 | 7.024 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
|------------|---------|-------|----|----------|-------|----|----------|-------|

|             |         |       |    |          |       |    |          |       |
|-------------|---------|-------|----|----------|-------|----|----------|-------|
| 10:00:00 AM | 26.6296 | 7.534 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
| 10:30:00 AM | 28.3703 | 8.027 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
| 11:00:00 AM | 30.2400 | 8.556 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
| 11:30:00 AM | 29.7242 | 8.410 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
| 12:00:00 PM | 28.7571 | 8.136 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
| 12:30:00 PM | 27.9835 | 7.917 | 94 | 19747.64 | 13.00 | 97 | 19327.64 | 14.25 |
| 1:00:00 PM  | 26.8230 | 7.589 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
| 1:30:00 PM  | 23.9540 | 6.778 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
| 2:00:00 PM  | 22.0522 | 6.240 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
| 2:30:00 PM  | 19.1187 | 5.410 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
| 3:00:00 PM  | 15.7662 | 4.462 | 94 | 19765.00 | 13.00 | 97 | 19345.00 | 14.25 |
| 3:30:00 PM  | 11.5756 | 3.276 | 94 | 19730.28 | 13.00 | 97 | 19310.28 | 14.25 |
| 4:00:00 PM  | 9.0612  | 2.565 | 90 | 18862.22 | 12.91 | 93 | 18442.22 | 14.14 |
| 4:30:00 PM  | 5.6442  | 1.599 | 85 | 17820.55 | 12.80 | 87 | 17400.55 | 13.97 |
| 5:00:00 PM  | 2.8721  | 0.815 | 80 | 16778.89 | 12.68 | 82 | 16358.89 | 13.82 |
| 5:30:00 PM  | 0.6478  | 0.185 | 75 | 15737.22 | 12.57 | 77 | 15317.22 | 13.68 |
| 6:00:00 PM  | 0.0031  | 0.003 | 70 | 14695.55 | 12.46 | 72 | 14275.55 | 13.53 |
| 6:30:00 PM  | 0.0031  | 0.003 | 65 | 13653.89 | 12.35 | 67 | 13233.89 | 13.39 |
| 7:00:00 PM  | 0.0031  | 0.003 | 60 | 12612.22 | 12.24 | 62 | 12192.22 | 13.21 |
| 7:30:00 PM  | 0.0030  | 0.003 | 55 | 11570.55 | 12.12 | 56 | 11150.55 | 13.07 |
| 8:00:00 PM  | 0.0031  | 0.003 | 50 | 10528.89 | 12.01 | 51 | 10108.89 | 12.93 |
| 8:30:00 PM  | 0.0031  | 0.003 | 45 | 9487.22  | 11.90 | 46 | 9067.22  | 12.78 |
| 9:00:00 PM  | 0.0031  | 0.003 | 40 | 8445.55  | 11.79 | 41 | 8025.55  | 12.64 |
| 9:30:00 PM  | 0.0031  | 0.003 | 35 | 7403.89  | 11.68 | 36 | 6983.89  | 12.49 |
| 10:00:00 PM | 0.0030  | 0.003 | 30 | 6362.22  | 11.56 | 30 | 5942.22  | 12.32 |

|             |        |       |    |         |       |    |         |       |
|-------------|--------|-------|----|---------|-------|----|---------|-------|
| 10:30:00 PM | 0.0030 | 0.003 | 25 | 5320.55 | 11.45 | 25 | 4900.55 | 12.17 |
| 11:00:00 PM | 0.0030 | 0.003 | 20 | 4278.89 | 11.34 | 20 | 4156.00 | 12.06 |
| 11:30:00 PM | 0.0031 | 0.003 | 19 | 4268.00 | 11.32 | 20 | 4156.00 | 12.06 |

**Data 14 Juni 2024**

| Waktu       | Vmp   | Imp   | Baterai 1 |         |       | Baterai 2 |         |       |
|-------------|-------|-------|-----------|---------|-------|-----------|---------|-------|
|             |       |       | % SoC     | I       | V     | % SoC     | I       | V     |
| 12:00:00 AM | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 12:30:00 AM | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 1:00:00 AM  | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 1:30:00 AM  | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 2:00:00 AM  | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 2:30:00 AM  | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 3:00:00 AM  | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 3:30:00 AM  | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 4:00:00 AM  | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 4:30:00 AM  | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 5:00:00 AM  | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 5:30:00 AM  | 0.003 | 0.003 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 6:00:00 AM  | 0.519 | 0.149 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 6:30:00 AM  | 1.744 | 0.495 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 7:00:00 AM  | 3.323 | 0.942 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |
| 7:30:00 AM  | 5.225 | 1.480 | 19        | 4268.00 | 11.32 | 19        | 4156.00 | 12.06 |

|             |        |       |    |          |       |    |          |       |
|-------------|--------|-------|----|----------|-------|----|----------|-------|
| 8:00:00 AM  | 5.677  | 1.608 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 8:30:00 AM  | 7.417  | 2.100 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 9:00:00 AM  | 9.158  | 2.592 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 9:30:00 AM  | 10.899 | 3.085 | 21 | 4674.19  | 11.36 | 21 | 4485.46  | 12.12 |
| 10:00:00 AM | 10.222 | 2.893 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 10:30:00 AM | 11.511 | 3.258 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 11:00:00 AM | 26.146 | 7.398 | 75 | 15829.57 | 12.57 | 71 | 14566.72 | 13.56 |
| 11:30:00 AM | 30.014 | 8.492 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 12:00:00 PM | 30.047 | 8.501 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 12:30:00 PM | 22.858 | 6.468 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 1:00:00 PM  | 17.152 | 4.854 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 1:30:00 PM  | 23.728 | 6.714 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 2:00:00 PM  | 20.859 | 5.902 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 2:30:00 PM  | 18.893 | 5.346 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 3:00:00 PM  | 15.863 | 4.489 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 3:30:00 PM  | 11.608 | 3.285 | 98 | 20395.83 | 13.09 | 95 | 19240.83 | 14.25 |
| 4:00:00 PM  | 8.674  | 2.456 | 93 | 19354.17 | 12.98 | 89 | 18199.17 | 14.08 |
| 4:30:00 PM  | 5.386  | 1.526 | 87 | 18312.50 | 12.84 | 84 | 17157.50 | 13.94 |
| 5:00:00 PM  | 1.583  | 0.450 | 82 | 17270.83 | 12.73 | 79 | 16115.83 | 13.79 |
| 5:30:00 PM  | 0.422  | 0.122 | 77 | 16229.17 | 12.62 | 74 | 15074.17 | 13.65 |
| 6:00:00 PM  | 0.003  | 0.003 | 72 | 15187.50 | 12.51 | 69 | 14032.50 | 13.50 |
| 6:30:00 PM  | 0.003  | 0.003 | 67 | 14145.83 | 12.39 | 63 | 12990.83 | 13.33 |
| 7:00:00 PM  | 0.003  | 0.003 | 62 | 13104.17 | 12.28 | 58 | 11949.17 | 13.19 |
| 7:30:00 PM  | 0.003  | 0.003 | 57 | 12062.50 | 12.17 | 53 | 10907.50 | 13.04 |
| 8:00:00 PM  | 0.003  | 0.003 | 52 | 11020.83 | 12.06 | 48 | 9865.83  | 12.90 |

|             |       |       |    |         |       |    |         |       |
|-------------|-------|-------|----|---------|-------|----|---------|-------|
| 8:30:00 PM  | 0.003 | 0.003 | 47 | 9979.17 | 11.95 | 43 | 8824.17 | 12.75 |
| 9:00:00 PM  | 0.003 | 0.003 | 42 | 8937.50 | 11.83 | 38 | 7782.50 | 12.61 |
| 9:30:00 PM  | 0.003 | 0.003 | 37 | 7895.83 | 11.72 | 32 | 6740.83 | 12.43 |
| 10:00:00 PM | 0.003 | 0.003 | 32 | 6854.17 | 11.61 | 27 | 5699.17 | 12.29 |
| 10:30:00 PM | 0.003 | 0.003 | 27 | 5812.50 | 11.50 | 22 | 4657.50 | 12.14 |
| 11:00:00 PM | 0.003 | 0.003 | 22 | 4770.83 | 11.38 | 19 | 4156.00 | 12.06 |
| 11:30:00 PM | 0.003 | 0.003 | 19 | 4268.00 | 11.32 | 19 | 4156.00 | 12.06 |

#### Data 15 Juni 2024

| Waktu       | Vmp    | Imp   | % SoC | Baterai 1 |       | % SoC | Baterai 2 |       |
|-------------|--------|-------|-------|-----------|-------|-------|-----------|-------|
|             |        |       |       | I         | V     |       | I         | V     |
| 12:00:00 AM | 0.003  | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 12:30:00 AM | 0.003  | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 1:00:00 AM  | 0.0031 | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 1:30:00 AM  | 0.0031 | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 2:00:00 AM  | 0.0031 | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 2:30:00 AM  | 0.0031 | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 3:00:00 AM  | 0.0031 | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 3:30:00 AM  | 0.0031 | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 4:00:00 AM  | 0.003  | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 4:30:00 AM  | 0.003  | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 5:00:00 AM  | 0.003  | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 5:30:00 AM  | 0.0031 | 0.003 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 6:00:00 AM  | 0.6891 | 0.149 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |
| 6:30:00 AM  | 1.9358 | 0.495 | 19    | 4268.00   | 11.32 | 19    | 4156.00   | 12.06 |

|             |         |         |    |          |       |    |          |       |
|-------------|---------|---------|----|----------|-------|----|----------|-------|
| 7:00:00 AM  | 3.2495  | 1.31762 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 7:30:00 AM  | 5.8829  | 2.71761 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 8:00:00 AM  | 13.6269 | 3.81759 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 8:30:00 AM  | 21.1229 | 6.31759 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 9:00:00 AM  | 23.6989 | 7.51756 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 9:30:00 AM  | 24.8244 | 7.8543  | 21 | 4674.19  | 11.36 | 21 | 4485.46  | 12.12 |
| 10:00:00 AM | 26.6296 | 8.01761 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 10:30:00 AM | 27.3703 | 8.31762 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |
| 11:00:00 AM | 23.4762 | 7.6321  | 75 | 15829.57 | 12.57 | 71 | 14566.72 | 13.56 |
| 11:30:00 AM | 23.7745 | 7.8964  | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 12:00:00 PM | 25.0123 | 7.9876  | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 12:30:00 PM | 25.6874 | 8.08797 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 1:00:00 PM  | 24.1563 | 7.48793 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 1:30:00 PM  | 22.1123 | 7.08796 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 2:00:00 PM  | 19.5731 | 5.97532 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 2:30:00 PM  | 19.0547 | 5.55789 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 3:00:00 PM  | 18.7451 | 5.43268 | 98 | 20500.00 | 13.09 | 95 | 19345.00 | 14.25 |
| 3:30:00 PM  | 6.9641  | 2.79985 | 98 | 20395.83 | 13.09 | 95 | 19240.83 | 14.25 |
| 4:00:00 PM  | 7.5423  | 2.95323 | 93 | 19354.17 | 12.98 | 89 | 18199.17 | 14.08 |
| 4:30:00 PM  | 4.0135  | 2.14567 | 87 | 18312.50 | 12.84 | 84 | 17157.50 | 13.94 |
| 5:00:00 PM  | 2.0562  | 1.25675 | 82 | 17270.83 | 12.73 | 79 | 16115.83 | 13.79 |
| 5:30:00 PM  | 0.9561  | 0.76541 | 77 | 16229.17 | 12.62 | 74 | 15074.17 | 13.65 |
| 6:00:00 PM  | 0.003   | 0.003   | 72 | 15187.50 | 12.51 | 69 | 14032.50 | 13.50 |
| 6:30:00 PM  | 0.003   | 0.003   | 67 | 14145.83 | 12.39 | 63 | 12990.83 | 13.33 |
| 7:00:00 PM  | 0.003   | 0.003   | 62 | 13104.17 | 12.28 | 58 | 11949.17 | 13.19 |

|             |       |       |    |          |       |    |          |       |
|-------------|-------|-------|----|----------|-------|----|----------|-------|
| 7:30:00 PM  | 0.003 | 0.003 | 57 | 12062.50 | 12.17 | 53 | 10907.50 | 13.04 |
| 8:00:00 PM  | 0.003 | 0.003 | 52 | 11020.83 | 12.06 | 48 | 9865.83  | 12.90 |
| 8:30:00 PM  | 0.003 | 0.003 | 47 | 9979.17  | 11.95 | 43 | 8824.17  | 12.75 |
| 9:00:00 PM  | 0.003 | 0.003 | 42 | 8937.50  | 11.83 | 38 | 7782.50  | 12.61 |
| 9:30:00 PM  | 0.003 | 0.003 | 37 | 7895.83  | 11.72 | 32 | 6740.83  | 12.43 |
| 10:00:00 PM | 0.003 | 0.003 | 32 | 6854.17  | 11.61 | 27 | 5699.17  | 12.29 |
| 10:30:00 PM | 0.003 | 0.003 | 27 | 5812.50  | 11.50 | 22 | 4657.50  | 12.14 |
| 11:00:00 PM | 0.003 | 0.003 | 22 | 4770.83  | 11.38 | 19 | 4156.00  | 12.06 |
| 11:30:00 PM | 0.003 | 0.003 | 19 | 4268.00  | 11.32 | 19 | 4156.00  | 12.06 |

## LAMPIRAN C

### DOKUMENTASI



