

24g wire

6 serpentine coils with 24 wraps in 3 sets of 2, wired series

Measurements are

Rectified volts

Rectified amps

pair of coils read from centre tap to star point

Run 1 1 ohm resistor

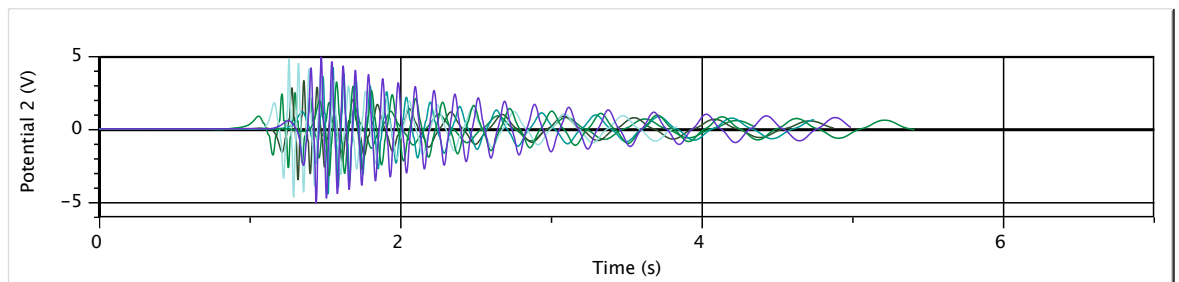
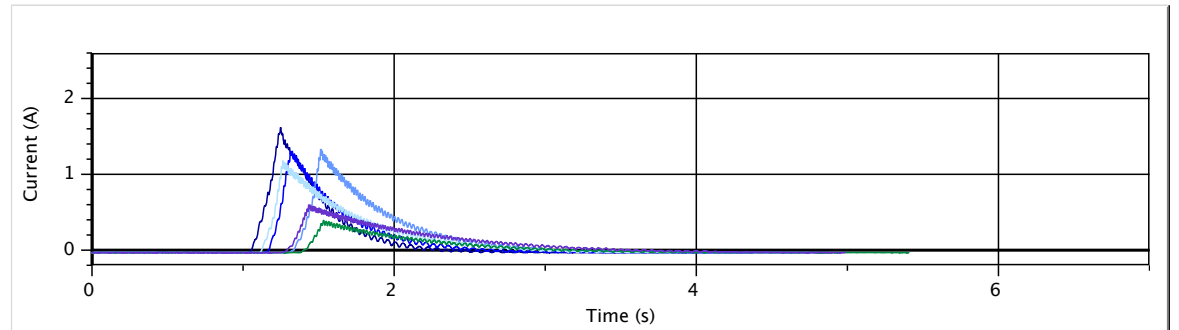
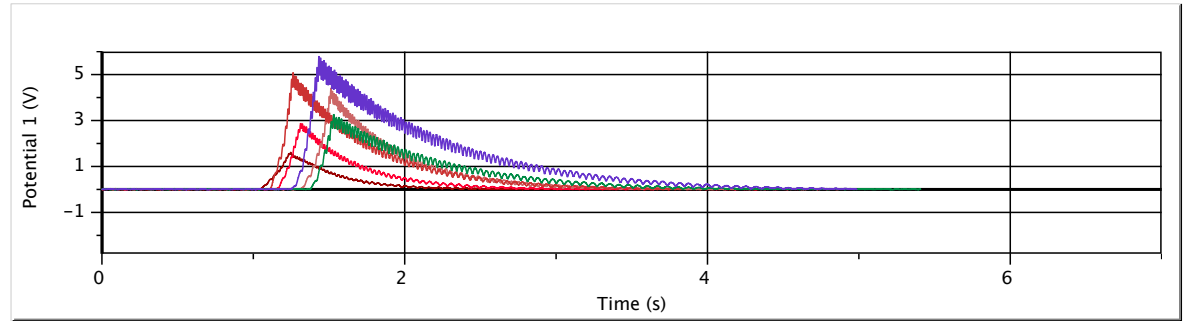
Run 2 2 ohm resistor

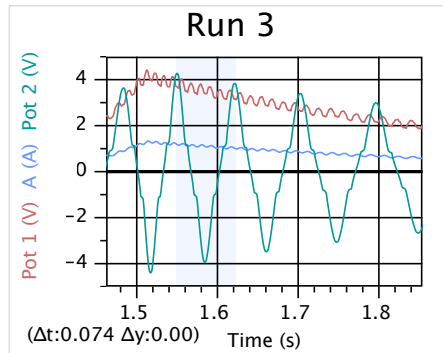
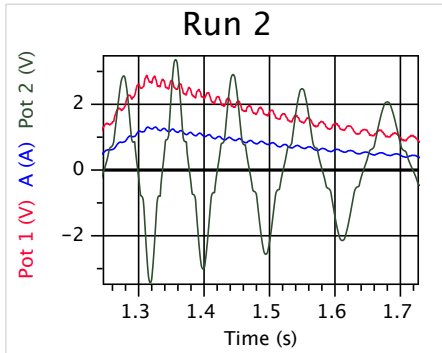
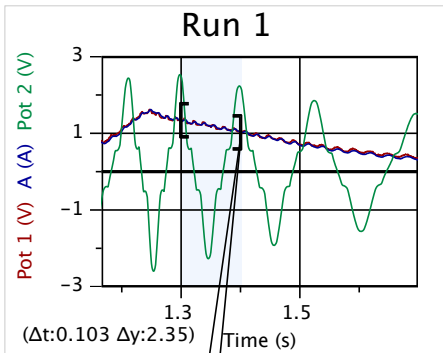
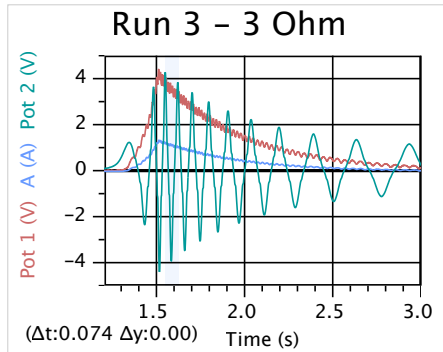
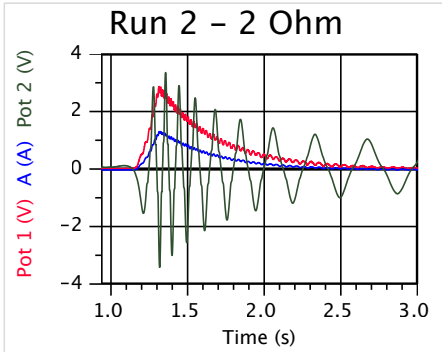
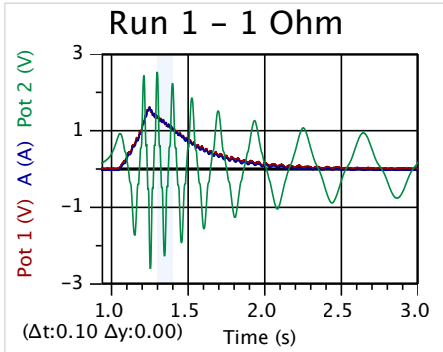
Run 3 3 ohm resistor

Run 4 3.9 ohm resistor

Run 5 6.8 ohm resistor

Run 6 8.2 ohm resistor





Statistics for: Run 1 | Current
 min: 1.027 at 1.401 max: 1.356 at 1.306
 mean: 1.192 median: 1.197
 std. dev: 0.08995 samples: 103
 ΔA: 0.329

Statistics for: Run 1 | Potential 1
 min: 1.029 at 1.396 max: 1.394 at 1.305
 mean: 1.192 median: 1.204

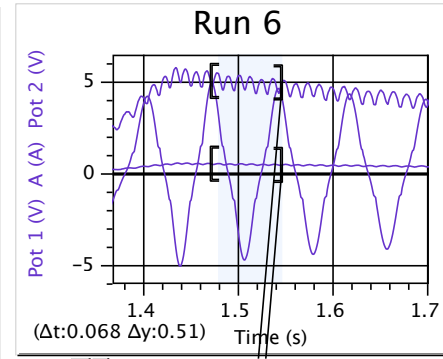
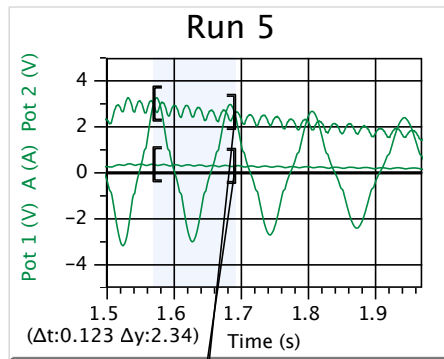
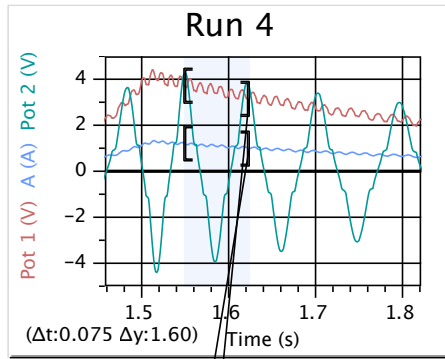
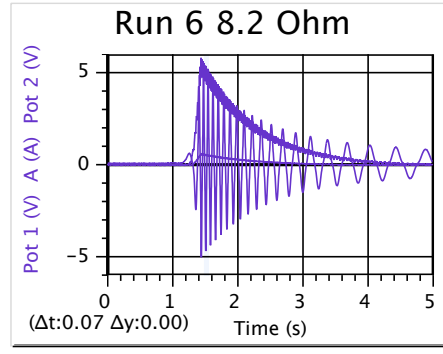
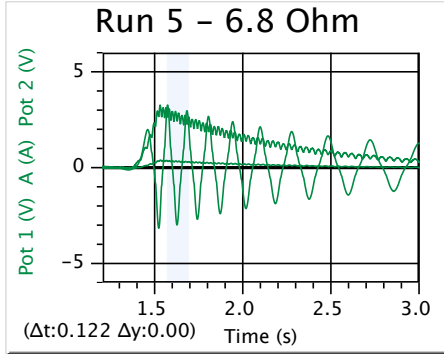
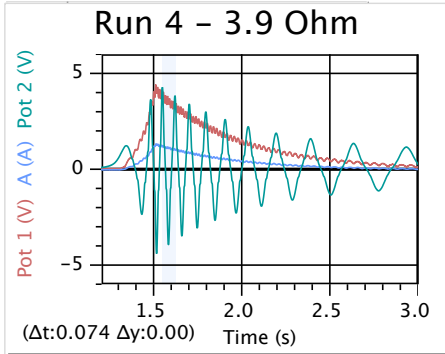
24g wire

6 serpentine coils with 24 wraps in 3 sets of 2, wired :

- Run 1 1 ohm resistor
- Run 2 2 ohm resistor
- Run 3 3 ohm resistor
- Run 4 3.9 ohm resistor
- Run 5 6.8 ohm resistor
- Run 6 8.2 ohm resistor

Run 1

dT = 0.103 sec
 $60\text{sec} / (0.103 \times 4) = 145 \text{ rpm}$
 $1.2\text{V} \times 1.1 = 1.32\text{W}$
 W/rev = 0.009
 or
 $(1 + 1.5) \times 1.6 \text{ A} = 4\text{W}$ (without rectification loss)
 W/rev = 0.02



Statistics for: Run 3 | Current
 min: 0.9904 at 1.611 max: 1.218 at 1.557
 mean: 1.101 median: 1.091
 std. dev: 0.05961 samples: 75
 ΔA: 0.228

Statistics for: Run 5 | Current
 min: 0.2648 at 1.667 max: 0.3707 at 1.569
 mean: 0.3186 median: 0.3179
 std. dev: 0.02528 samples: 123
 ΔA: 0.106

Statistics for: Run 6 | Current
 min: 0.4714 at 1.520 max: 0.5669 at 1.478
 mean: 0.5190 median: 0.5190
 std. dev: 0.02602 samples: 76
 ΔA: 0.096

Statistics for: Run 3 | Potential 1
 min: 3.118 at 1.623 max: 4.024 at 1.555
 mean: 3.519 median: 3.498
 std. dev: 0.2283 samples: 75

Statistics for: Run 5 | Potential 1
 min: 2.227 at 1.665 max: 3.074 at 1.581
 mean: 2.647 median: 2.650
 std. dev: 0.2138 samples: 123

Statistics for: Run 6 | Potential 1
 min: 4.330 at 1.531 max: 5.514 at 1.477
 mean: 4.950 median: 4.973
 std. dev: 0.3133 samples: 76

24g wire

6 serpentine coils with 24 wraps in 3 sets of 2, wirec

- Run 1 1 ohm resistor
- Run 2 2 ohm resistor
- Run 3 3 ohm resistor
- Run 4 3.9 ohm resistor
- Run 5 6.8 ohm resistor
- Run 6 8.2 ohm resistor

Run 4
 $dT = 0.075 \text{ sec}$
 $60\text{sec} / (0.075 * 4) = 200 \text{ rpm}$
 $1V * 1.6A = 1.6W$
 $W/\text{rev} = 0.008$
 or
 $(1 + 1.5) * 1.6 A = 4W \text{ (without rectification loss)}$
 $W/\text{rev} = 0.02$

Run 5
 $dT = 0.123$
 $60\text{sec} / (0.123 * 4) = 121 \text{ rpm}$
 $2.6V * 0.31 = 0.806 W$
 $W/\text{rev} = 0.0066$

Run 6
 $dT = 0.068 \text{ for 2 peaks}$
 $60\text{sec} / (0.068 * 4) = 220 \text{ rpm}$
 $4.9V * 0.5 A = 2.5 W$
 $W/\text{rev} = 0.011W$
 or
 $(4.9 + 1.4) * 0.5 = 3.15W \text{ (without rectification loss)}$