**Equations derived from experimental using MATLAB scripts**

**Torque as a function of Current:**

**Torque** = (372755577339109 \* **I** )/281474976710656 - 5704974120397849/1099511627776

**Torque as a function of Speed**

**Torque** = - (576893008407691 \* **RPM** )/2199023255552 - 1460733912210311/1073741824

**Time Domain Polynomials**

**RPM** = (2931897552390449 \* **t** )/549755813888 - (1779672222110013 \* **t^2** )/137438953472 + (3764698127732825 \* **t^3** )/274877906944 - (3597477967796145 \* **t^4** )/549755813888 + (19881416021149 \* **t^5** )/17179869184 + 2150147700669915/70368744177664

**Torque** = (4232636388084301 \* **t** )/1125899906842624 - (4996841942924929 \* **t^2** )/562949953421312 + (5195686161350985 \* **t^3** )/562949953421312 - (1226454899424321 \* **t^4** )/281474976710656 + (3438836479473219 \* **t^5** )/4503599627370496 - 5346174236443273/1099511627776

**Current** = (842338346874225 \* **t^2** )/140737488355328 - (3059819007680209 \* **t** )/1125899906842624 - (1670428601677383 \* **t^3** )/281474976710656 + (3057895983610933 \* **t^4** )/1125899906842624 - (8394912565701203 \* **t^5** )/18014398509481984 + 73797728614309/70368744177664