

$$\log(Amp) = C_0 + \sum_{i=1}^n C_i PGA_{ref}^i + D_i A_r^i + E_i M^i + CL_i (\log(PGA_{ref} + CL_0))^i + DL_i (\log(A^r + DL_0))^i + EL_i (\log(M + EL_0))^i$$

$$\sigma = SC_0 + \sum_{i=1}^n SC_i PGA_{ref}^i + SD_i A_r^i + SE_i M^i + SCL_i (\log(PGA_{ref} + SCL_0))^i + SDL_i (\log(A_r + SDL_0))^i + SEL_i (\log(M + SEL_0))^i$$