ARMAX MODEL:

$$A(z^{-1})\,Y(t) = B_1(z^{-1})\,U_1(t) + B_2(z^{-1})\,U_2(t) + \beta + C(z^{-1})\,\varepsilon(t)$$

z^{-1} : The backward shift operator

Y : output

U1, U2 : inputs

β : Constant disturbance for parameters.

ε: white Gaussian noise. **(Stochastic disturbance)**

The parameters of the model are the disturbance β

And the coefficients of z^{-1} in the polynomials A, B1, B2, C.