(Multi-Player) Shouji Rating System V4

Formulas Example: 3 players.

Aμ 1500
Bμ 1500
Cμ 1500
Aφ 0.64
Bφ 0.64
Cφ 0.64
Aσ 0
Bσ 0
Cσ 0
β 400
α 0.5
ρ 0.5

$$\mathbb{C} = mean(A\varphi, B\varphi, C\varphi, AT, BT, CT) * \beta$$

Aʃ $= A\mu ** mean(A\varphi, AT)$
Bʃ $= B\mu ** mean(B\varphi, BT)$
Cʃ $= C\mu ** mean(C\varphi, CT)$
AT $= A\mu/(A\mu * A\varphi + A\mu)$
BT $= B\mu/(B\mu * B\varphi + B\mu)$
CT $= C\mu/(C\mu * C\varphi + C\mu)$
A° $= (2/Total\ Players\ Playing)/(1 + exp((mean(Every\ \mu\ except\ your\ \mu) - A\mu)/\mathbb{C}))$
B° $= (2/Total\ Players\ Playing)/(1 + exp((mean(Every\ \mu\ except\ your\ \mu) - B\mu)/\mathbb{C}))$
C° $= (2/Total\ Players\ Playing)/(1 + exp((mean(Every\ \mu\ except\ your\ \mu) - C\mu)/\mathbb{C}))$

Aø, 1 = Win, 0 = Loss.
Bø, 1 = Win, 0 = Loss.
Cø, 1 = Win, 0 = Loss.

Aμ' $= A\mu + A\int ** \alpha * (A\varnothing - A°) + A\int ** \alpha * A\sigma$
Bμ' $= B\mu + B\int ** \alpha * (B\varnothing - B°) + B\int ** \alpha * B\sigma$
Cμ' $= C\mu + C\int ** \alpha * (C\varnothing - C°) + C\int ** \alpha * C\sigma$
Aφ' $= (A\varphi * \rho) ** (1 - |A\sigma|)$
Bφ' $= (B\varphi * \rho) ** (1 - |B\sigma|)$
Cφ' $= (C\varphi * \rho) ** (1 - |C\sigma|)$