10^{4} Converged 6×10^{3} Converged 4×10^{3} 3×10^{3} 10^{3} time elapsed for this fit --- 38.5137357711792 seconds --- 10^{-3} 10^{-2} 10^{-1} 10^{-4} 10^{-3} 10^{-2} 10^{-4} 10^{-5} 10^{-1} inducer -> S -| Output (GFP) Full circuit with stripe 6×10^{3} 4×10^3 10^{4} 3×10^{3} 10⁻⁵ 10⁻³ 10^{-2} 10⁻⁵ 10^{-3} 10^{-1} 10^{-4} 10^{-4} 10^{-2} 10^{-1} Across all four plots: RSS (converged)=0.284 RSS (initial) = 0.332RSS (% reduction)=0.539 epsilon Initial guesses Converged message: Optimization terminated successfully. A_s 0.000000 650.714912 6.507149e+02 success: True B s 0.000000 16259.979950 1.625998e+04 status: 0 C_s 0.000000 1296.448889 1.296449e+03 fun: 0.28368443760564377 0.000000 1.154067 1.154067e+00 x: [6.507e+02 1.626e+04 ... 1.241e+00 6.687e+00] 3064.142611 2020.019216 5.084162e+03 nit: 15090 B r -20530.439883 23688.809187 3.158369e+03 nfev: 19926 Cr-0.009531 0.010358 8.268924e-04 final simplex: (array([[6.507e+02, 1.626e+04, ..., 1.241e+00, 7.208515 0.910072 8.118587e+00 Νr 6.687e+001, 5392.311910 143.802212 5.536114e+03 [6.507e+02, 1.626e+04, ..., 1.241e+00, 50238.271408 2.692099e+05 B h 218971.622490 6.687e+00], Ch0.034188 0.000929 3.511727e-02 1.673894 3.663068e-15 Αо -1.673894 [6.507e+02, 1.626e+04, ..., 1.241e+00, B_o 6.321683 0.895342 7.217025e+00 6.687e+00], C_0 2.657699 2.387439e+00 [6.507e+02, 1.626e+04, ..., 1.241e+00, -0.270260 1.379953 1.241069e+00 6.687e+00]]), array([2.837e-01, 2.837e-01, ..., 2.837e-01, 2.837e-01])) Νo -0.138883 2.361284 6.687228e+00 Fο 4.325944

inducer -> S - IR (GFP output)

Initial Guess

ConvergedConverged

['SM data type data plots for mutation', 'Sensor1', 'using model:', 'model']

inducer -> sensor (GFP output)