Budworm trials Trial 0, $x_0 = 1.00$, k = 5.35Trial 1, $x_0 = 0.76$, k = 5.44Trial 2, $x_0 = 0.76$, k = 5.701.00 trajectory 0.7725 $--- x_{\text{steady}} = 0.76$ 0.759 0.95 -0.7700 t=36.000.758 0.90 -0.7675 0.757 -0.85 -0.7650 trajectory trajectory 0.7625 0.80 -0.756 $--- x_{\text{steady}} = 0.76$ $--- x_{\text{steady}} = 0.77$ t=20.57t=26.860.7600 0.75 20 30 10 15 10 15 20 Trial 3, $x_0 = 0.77$, k = 6.12Trial 4, $x_0 = 0.80$, k = 6.67Trial 5, $x_0 = 0.82$, k = 7.310.86 0.820 0.790 -0.85 0.815 0.785 -0.810 0.84 -0.805 0.780 trajectory trajectory trajectory $x_{\text{steady}} = 0.80$ 0.83 $-- x_{\text{steady}} = 0.86$ 0.800 $--- x_{\text{steady}} = 0.82$ 0.775 t=46.86t = 28.57t=32.570.795 10 10 20 30 10 40 15 20 25 30 20 Trial 6, $x_0 = 0.86$, k = 8.01Trial 7, $x_0 = 0.90$, k = 8.72Trial 8, $x_0 = 0.95$, k = 9.401.01 1.00 0.94 0.89 -0.99 0.93 0.98 0.88 0.92 -0.97 0.87 trajectory trajectory trajectory 0.91 0.96 - $x_{\text{steady}} = 0.95$ $x_{\text{steady}} = 0.90$ - $x_{\text{steady}} = 1.01$ 0.95 t=54.86t = 69.71t=104.570.86 0.90 -10 20 30 40 50 20 40 60 20 60 80 100 Trial 9, $x_0 = 1.01$, k = 10.00Trial 10, $x_0 = 7.73$, k = 10.49Trial 11, $x_0 = 8.25$, k = 10.838.6 8.2 6 -8.1 8.5 trajectory $--- x_{\text{steady}} = 7.73$ 8.0 t=328.578.4 -7.9 trajectory trajectory $x_{\text{steady}} = 8.25$ - $x_{\text{steady}} = 8.62$ 2 -7.8 8.3 t=39.43t = 38.29100 200 300 10 30 20 30 20 10 Trial 13, $x_0 = 8.81$, k = 11.01Trial 12, $x_0 = 8.62$, k = 11.01Trial 14, $x_0 = 8.81$, k = 10.83+8.8078000.0 8.80 trajectory 8.80 trajectory $--- x_{\text{steady}} = 8.81$ $--- x_{\text{steady}} = 8.62$ 0.0006 t=4.00t=17.718.75 -8.75 0.0004 8.70 -8.70 -0.0002 trajectory $--- x_{\text{steady}} = 8.81$ 8.65 8.65 t=17.710.0000 10 10 15 Trial 15, $x_0 = 8.62$, k = 10.49Trial 16, $x_0 = 8.26$, k = 10.00Trial 17, $x_0 = 7.73$, k = 9.40trajectory trajectory trajectory 8.6 -8.2 - $--- x_{\text{steady}} = 8.25$ $--- x_{\text{steady}} = 7.73$ $--- x_{\text{steady}} = 7.07$ 7.6 t=36.57t=22.86t=22.298.1 8.5 -8.0 7.4 -8.4 -7.9 7.2 -7.8 8.3 -15 15 10 20 10 10 20 30 20 Trial 18, $x_0 = 7.07$, k = 8.72Trial 19, $x_0 = 6.32$, k = 8.01Trial 20, $x_0 = 5.49$, k = 7.31trajectory trajectory trajectory 7.0 -5.4 -6.2 - $-- x_{\text{steady}} = 6.32$ $--- x_{\text{steady}} = 5.49$ - $x_{\text{steady}} = 4.60$ t=31.43t=34.86t=54.295.2 -6.8 6.0 5.0 5.8 6.6 4.8 -5.6 6.4 4.6 10 0 10 30 15 20 25 30 20 0 10 20 30 40 50 Trial 23, $x_0 = 0.80$, k = 5.70Trial 21, $x_0 = 4.60$, k = 6.67Trial 22, $x_0 = 3.59$, k = 6.124.6 -0.795 -3.5 - trajectory trajectory trajectory - $x_{\text{steady}} = 3.59$ $--- x_{\text{steady}} = 0.80$ -- $x_{\text{steady}} = 0.77$ 4.4 -3.0 t=113.14t=97.710.790 t=26.292.5 4.2 -0.785 2.0 4.0 -0.780 1.5 3.8 -1.0 0.775 3.6 20 20 40 60 80 100 40 60 80 10 15 0 100 20 25 Trial 25, $x_0 = 0.76$, k = 5.35Trial 24, $x_0 = 0.77$, k = 5.44Trial 26, $x_0 = 0.76$, k = 5.440.760 trajectory trajectory 0.7725 $x_{\text{steady}} = 0.76$ 0.759 - $x_{\text{steady}} = 0.76$ 0.759 t=25.71t=20.570.7700 -0.758 0.758 0.7675 -0.757 -0.7570.7650 trajectory 0.7625 0.756 - $-- x_{\text{steady}} = 0.76$ 0.756 t=20.570.7600 15 10 10 15 20 10 20 15 Trial 27, $x_0 = 0.76$, k = 5.70Trial 28, $x_0 = 0.77$, k = 6.12Trial 29, $x_0 = 0.80$, k = 6.670.825 -0.7725 0.820 0.790 0.7700 0.815 -0.7675 0.785 0.810 0.7650 0.805 -0.780 - trajectory trajectory trajectory 0.7625 $--- x_{\text{steady}} = 0.77$ $--- x_{\text{steady}} = 0.80$ $--- x_{\text{steady}} = 0.82$ 0.800 -0.775 t = 26.86t = 28.57t=32.570.7600 -0.795 20 20 25 10 Trial 30, $x_0 = 0.82$, k = 7.31Trial 32, $x_0 = 0.90$, k = 8.72Trial 31, $x_0 = 0.86$, k = 8.010.94 0.89 0.85 -0.93 -0.88 0.84 -0.92 -0.87 trajectory trajectory trajectory 0.91 -0.83 - $--- x_{\text{steady}} = 0.86$ $--- x_{\text{steady}} = 0.90$ $--- x_{\text{steady}} = 0.95$ t=46.86t=54.86t=69.710.86 0.90 10 20 10 20 30 40 20 40 50 40 60 30 Trial 34, $x_0 = 1.01$, k = 10.00Trial 35, $x_0 = 7.73$, k = 10.49Trial 33, $x_0 = 0.95$, k = 9.408.2 -1.00 0.99 -8.1 trajectory 0.98 -- $x_{\text{steady}} = 7.73$ 8.0 t=328.570.97 -7.9 trajectory trajectory 0.96 - $-- x_{\text{steady}} = 1.01$ $--- x_{\text{steady}} = 8.25$ 2 7.8 0.95 t=104.57t=38.29100 200 300 20 30 20 80 100 Trial 38, $x_0 = 8.81$, k = 11.01Trial 36, $x_0 = 8.25$, k = 10.83Trial 37, $x_0 = 8.62$, k = 11.018.80 trajectory 8.6 - $--- x_{\text{steady}} = 8.81$ 0.0006 - t = 4.008.75 -8.5 -0.0004 8.70 8.4 trajectory trajectory 0.0002 - $- x_{\text{steady}} = 8.62$ $--- x_{\text{steady}} = 8.81$ 8.65 8.3 t=39.43t=17.710.0000 10 10 20 30 15 40 Trial 40, $x_0 = 8.62$, k = 10.49Trial 39, $x_0 = 8.81$, k = 10.83Trial 41, $x_0 = 8.26$, k = 10.008.80 trajectory trajectory trajectory 8.6 -8.2 - $--- x_{\text{steady}} = 7.73$ $--- x_{\text{steady}} = 8.62$ $--- x_{\text{steady}} = 8.25$ t=17.71t=22.86t=22.298.1 -8.75 -8.5 8.0 -8.70 -8.4 7.9 8.65 -7.8 -8.3 10 0 10 20 10 5 15 5 15 5 15 20 Trial 44, $x_0 = 6.32$, k = 8.01Trial 42, $x_0 = 7.73$, k = 9.40Trial 43, $x_0 = 7.07$, k = 8.72trajectory trajectory trajectory 7.0 -6.2 - $--- x_{\text{steady}} = 7.07$ $--- x_{\text{steady}} = 6.32$ $--- x_{\text{steady}} = 5.49$ 7.6 t=36.57t=31.43t=34.866.8 6.0 -7.4 -5.8 6.6 7.2 -5.6 -6.4 -10 20 30 10 15 20 30 10 20 25 Trial 47, $x_0 = 3.59$, k = 6.12Trial 45, $x_0 = 5.49$, k = 7.31Trial 46, $x_0 = 4.60$, k = 6.674.6 -3.5 trajectory trajectory trajectory 5.4 - $--- x_{\text{steady}} = 4.60$ $--- x_{\text{steady}} = 0.80$ $--- x_{\text{steady}} = 3.59$ 4.4 3.0 t=97.71t=54.29t=113.145.2 -2.5 4.2 5.0 -2.0 -4.0 1.5 4.8 -3.8 1.0 3.6 4.6 -20 30 40 40 100 80 10 50 0 20 60 80 0 20 40 60 0 100 Trial 49, $x_0 = 0.77$, k = 5.44Trial 48, $x_0 = 0.80$, k = 5.70Trial 50, $x_0 = 0.76$, k = 5.350.760 -0.795 trajectory trajectory trajectory 0.7725 - $--- x_{\text{steady}} = 0.76$ $--- x_{\text{steady}} = 0.77$ $--- x_{\text{steady}} = 0.76$ 0.759 -0.790 t=25.71t=26.29t=20.570.7700 0.758 -0.7675 0.785 -0.757 -0.7650 0.780 -0.7625 -0.756 -0.775 0.7600

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