Table 1: Almost rigorous Galerkin errors for an attracting periodic point for $\nu = 0.127$. Computed for $m = 7$, $M = 40$.The far tail is given by $2.17661e + 10/k^{12}$

k	E_n
1	$[-0.000278108,\ 0.000278108]$
2	$[-0.000988331,\ 0.00123214]$
3	$[-0.00711298,\ 0.00711298]$
4	$[-0.0204183,\ 0.016248]$
5	$[-0.0578071,\ 0.057807]$
6	$[-0.0918419,\ 0.113116]$
7	$[-0.0787589,\ 0.0787591]$

1 Galerkin errors

14.IV.2002 We computed 'almost rigorous' self-consistent bounds and Galerkin errors for them. By the Galerkin error we understand

$$E_n = Q_n F(x) - Q_n(F(P_n(x))) \tag{1}$$

where x is a point from our bounds. This number measures the influence of tail on n-th coordinate of the vector field.

By 'almost rigorous' we mean the following: we have a nonrigorous trajectory for 16-dim Galerkin projection and we use the bounds from this trajectory to initiate a construction of self-consistent bounds. We always obtain rigorous isolation for $k > m$.

It is quite clear that to obtain small Galerkin errors we need to increase m. The increase of M (with m fixed) does not give anything (compare Tables 2 and 3).

Table 2: Almost rigorous Galerkin errors for an attracting periodic point for $\nu = 0.127$. Computed for $m = 10$, $M = 30$. The far tail is given by $6.11022e + 10/k^{12}$

k	E_n
1	$[-2.3921e-07,\ 2.39215e-07]$
2	$[-1.20577e-06,\ 1.17378e-06]$
3	$[-5.99336e-06,\ 5.99319e-06]$
4	$[-2.60657e-05,\ 2.68461e-05]$
5	$[-7.67115e-05,\ 7.67093e-05]$
6	$[-0.000355372,\ 0.000348309]$
7	$[-0.000892646,\ 0.000892671]$
8	$[-0.00231196,\ 0.0022598]$
9	$[-0.00432135,\ 0.00432125]$
10	$[-0.0024444,\ 0.00306841]$

Table 3: Almost rigorous Galerkin errors for an attracting periodic points for $\nu = 0.127$. Computed for $m = 10$, $M = 60$. The far tail is given by $5.73671e + 12/k^{14}$

k	E_n
1	$[-2.3921e-07,\ 2.39215e-07]$
2	$[-1.20577e-06,\ 1.17378e-06]$
3	$[-5.99336e-06,\ 5.99319e-06]$
4	$[-2.60657e-05,\ 2.68461e-05]$
5	$[-7.67115e-05,\ 7.67093e-05]$
6	$[-0.000355372,\ 0.000348309]$
7	$[-0.000892646,\ 0.000892671]$
8	$[-0.00231196,\ 0.0022598]$
9	$[-0.00432135,\ 0.00432125]$
10	$[-0.0024444,\ 0.00306841]$

Table 4: Almost rigorous Galerkin errors for an attracting periodic point for $\nu = 0.127$. Computed for $m = 12$, $M = 36$. The far tail is given by $2.86054e + 10/k^{12}$

k	E_n
1	$[-2.04951e-09,\ 2.04951e-09]$
2	$[-1.01938e-08,\ 1.00326e-08]$
3	$[-7.18664e-08,\ 7.18661e-08]$
4	$[-2.44784e-07,\ 2.4913e-07]$
5	$[-1.04403e-06,\ 1.04403e-06]$
6	$[-4.15987e-06,\ 4.07871e-06]$
7	$[-1.12029e-05,\ 1.12029e-05]$
8	$[-4.85983e-05,\ 4.92694e-05]$
9	$[-0.000119345,\ 0.000119345]$
10	$[-0.000294634,\ 0.000299381]$
11	$[-0.000532375,\ 0.000532377]$
12	$[-0.000328375,\ 0.000274536]$

Table 5: Almost rigorous Galerkin errors for an attracting periodic point for $\nu = 0.127$. Computed for $m = 14$, $M = 42$. The far tail is given by $1.52229e + 10/k^{12}$

k	E_n
1	$[-1.42487e-11,\ 1.42487e-11]$
2	$[-1.02477e-10,\ 1.02161e-10]$
3	$[-5.55127e-10,\ 5.55124e-10]$
4	$[-1.8769e-09,\ 1.89425e-09]$
5	$[-1.11987e-08,\ 1.11988e-08]$
6	$[-3.48188e-08,\ 3.44648e-08]$
7	$[-1.36906e-07,\ 1.36906e-07]$
8	$[-5.1026e-07,\ 5.16143e-07]$
9	$[-1.34831e-06,\ 1.34832e-06]$
10	$[-5.74969e-06,\ 5.70405e-06]$
11	$[-1.36326e-05,\ 1.36326e-05]$
12	$[-3.34293e-05,\ 3.30973e-05]$
13	$[-5.77198e-05,\ 5.77195e-05]$
14	$[-2.84312e-05,\ 3.19057e-05]$

Table 6: Almost rigorous Galerkin errors for an attracting periodic point for $\nu = 0.127$. Computed for $m = 16$, $M = 48$. The far tail is given by $1.65978e + 13/k^{14}$

k	E_n
1	$[-7.72824e-14,\ 7.72818e-14]$
2	$[-7.28497e-13,\ 7.22119e-13]$
3	$[-3.09047e-12,\ 3.09052e-12]$
4	$[-1.52849e-11,\ 1.52276e-11]$
5	$[-6.95511e-11,\ 6.95517e-11]$
6	$[-2.10899e-10,\ 2.13371e-10]$
7	$[-1.17469e-09,\ 1.1747e-09]$
8	$[-3.49014e-09,\ 3.44518e-09]$
9	$[-1.31506e-08,\ 1.31505e-08]$
10	$[-4.78653e-08,\ 4.85653e-08]$
11	$[-1.23229e-07,\ 1.23229e-07]$
12	$[-5.17394e-07,\ 5.12188e-07]$
13	$[-1.20614e-06,\ 1.20615e-06]$
14	$[-2.92623e-06,\ 2.89293e-06]$
15	$[-5.06648e-06,\ 5.06643e-06]$
16	$[-2.63477e-06,\ 3.00641e-06]$