

APPENDIX E

**The optimal weight for SDOF Clough-Johnston hysteretic system
($\alpha = 0.3$) with known damping**

Table E The optimal weight for SDOF Clough-Johnston hysteretic system ($\alpha = 0.3$) with known damping

u_{ih}	1	2	3	4	5	6
1	-0.3437502234	0.6258138915	0.5817187941	-0.8124828998	-0.4608787556	-0.2920943737
2	-0.9464549497	-0.1767030885	0.3276351005	0.1409500289	-0.8603606674	-1.0665236836
3	0.2087239225	0.3233968837	1.0550956720	-0.0603326525	0.0688868949	0.1939973644
4	0.0093225461	-0.2166644097	0.4509393136	0.3231154277	0.8221006698	0.2178311914
5	-0.3085789928	0.0724785463	0.3426672938	-0.2154034032	1.4576435440	1.4894391711
6	-0.1428979805	0.0020504326	-0.0088915531	1.2763487636	0.5331930262	1.0289292890
7	0.0864745372	0.1771202940	-0.2349867826	0.0091166348	0.5125988754	-0.1025158992
8	1.4465118734	0.3845284010	-0.4051390550	-0.5546044545	-0.7933512106	-0.9875091314
9	0.0229005421	-0.7230585864	-1.1714616678	-0.1387661606	-0.1676780451	0.3655370418
10	0.2270347510	0.2511950951	-0.1075069932	-0.7242466832	0.6485600269	0.0526283929
11	0.0054124536	1.8942561403	0.7638085147	1.2489387324	-0.9239737394	0.0115605191
12	-0.0905383378	-0.2829580547	1.1897733756	0.3793111230	-0.0706789191	0.4057641316
13	-0.3364058171	-0.3327590153	-0.1706098484	0.0680161317	1.1761740164	0.9744413923
14	0.1842017083	0.2519973340	0.2064679917	-0.2294540612	0.3224565033	-0.2048989221
15	-0.1159738850	0.0969099057	0.4409356624	0.8908811021	0.4848228970	-0.0982189980
16	0.3600461831	0.1102045256	-0.7432770078	-1.2600335674	0.1960810708	-0.0473993507

Table E (Continued)

u_{ih}	7	8	9
1	-0.6175580616	1.2492205099	-0.1416528459
2	-1.3282569520	-0.8417795359	-0.5113148623
3	-0.6636344855	-0.5998829960	0.2758043885
4	0.7309080627	-0.2462486103	0.2901496001
5	1.4981649485	-1.4081176044	-0.5523826431
6	0.4179953158	-0.7317135831	1.2756153489
7	0.9865716063	-0.9487070148	-0.1443566446
8	-0.7384548640	-1.5039480346	1.0824547909
9	-0.3130895690	0.6154926959	0.7096288078
10	-0.2669006736	1.1062109946	-0.8969905984
11	0.7916353212	-0.4469292473	0.9192548385
12	0.3047050877	-0.2145898619	0.5718358363
13	0.7732032912	0.8476769143	0.4329671020
14	-0.2576108742	-0.5237348265	-0.6364966182
15	-0.4938110973	-0.4351876998	0.1375128372
16	-0.1978367423	-0.4138520870	1.0732134784

Table E (Continued)

v_{hj}	1	2	3	4	5	6
1	0.1542434086	0.3749917883	0.1098560318	0.7830921419	-0.1672891442	0.6681800576
2	0.3200856433	-0.3095268499	0.5047771298	0.3393312308	0.2472855951	-1.1626829105
3	-0.0244850546	0.1156346559	-0.2487655153	0.8112773592	-0.1866691860	0.3046630975
4	0.0712932772	-0.2255512117	-0.4134436940	-0.2350517305	-0.9325926845	-0.3528091758
5	-0.1371093106	0.4252741238	-0.8128069330	-0.4251157826	-0.4314555860	0.0979252606
6	-0.2167492510	0.1463242815	0.1127652434	-0.1513013117	0.4459199454	-0.1172981149
7	-0.0005343461	-0.4196318747	1.2012683617	0.8621670915	-0.6539502612	-0.2243709990
8	0.2959952301	-0.7822741046	1.4719387687	-0.6856137274	0.4591519480	0.4886544833
9	-0.0177288836	-0.1214224369	-0.1013928143	0.3343738097	0.3737938917	-0.1134151268
10	0.0415683934	0.6839517190	-0.5934016722	-0.4780335483	-0.9969708540	0.4911186882
11	0.1105558236	0.7854401422	0.4582091898	0.5682483403	-0.4336470243	0.4077991837
12	-0.0838439202	-0.7805075202	-0.1409756122	-0.4339863349	-0.5615333697	0.2622764275
13	-0.0297068951	0.0052512968	-0.1116600780	-0.1768390322	-0.6700771642	0.1117001470
14	0.2951624406	-0.4449565168	0.4384969430	-1.1176802667	-0.3841219604	0.5734843325
15	0.0498895578	-0.4362243257	0.2712642720	0.0264305553	0.7963173255	0.1401509093
16	-0.3312340899	-0.6830059077	0.1660173189	0.2225479939	0.0073428608	-0.3287278081

Table E (Continued)

v_{hj}	7	8	9	10	11	12
1	0.2662211713	-0.4702223169	-0.2418972493	0.1530341160	0.8722769273	-0.1055399328
2	-0.7017456888	-1.3178714899	-0.0181448861	0.0144459235	-0.0822901867	-0.4948095477
3	-0.0744377177	-0.1846252094	-0.2480091350	0.1972698030	0.3949640497	-0.6598778176
4	0.4440737734	0.0168791495	-0.8767209452	-0.5508449479	-0.3734733168	0.1897971741
5	0.8955887876	-0.1735612843	-0.4678007671	0.7865465483	-0.4469517289	0.1436864227
6	-0.1727446295	-0.4506305748	0.1017389657	-0.0287535590	0.1832554354	0.0394176157
7	-0.4523014327	0.6440248177	1.0374287095	-1.2895688268	-0.6035054046	1.3387659092
8	-0.5425407986	-0.2539953730	-0.9000943263	1.0975010315	1.1891451266	-0.1842287371
9	0.1252186576	-0.5275061759	-0.2580843213	-0.4753145616	-0.2712512241	-0.1602788641
10	-0.9959030425	-0.1777707120	-0.1349720455	-0.5546295337	1.1655194354	0.3458471807
11	0.4548357952	-0.3429587897	-0.6513279122	0.1309003156	0.3054125990	1.1245109816
12	0.0768306589	0.3769132404	0.2928249196	0.8801042205	-0.7923507386	0.1702049340
13	0.0092224315	-0.1390912582	-0.0109102010	0.2936566065	-0.5709580164	-0.0008788873
14	0.6100073866	-0.7118081573	1.2622817197	0.7265716097	-0.7420921142	0.0564625637
15	0.1291642058	-0.2471620569	0.3490003902	-0.0302867070	-0.0918174958	-0.2296954880
16	0.2120855547	0.4292130600	0.7945149461	-0.2512672475	0.1754791346	-0.3696488773

Table E (Continued)

v_{hj}	13	14	15
1	-1.3906457953	-0.1653082702	-0.4280371100
2	0.0249796584	-0.9313399587	-0.0294803312
3	0.0172151501	0.5079374758	0.7752731524
4	-0.0962043722	-0.0291949340	0.7263565611
5	-0.2127051486	-0.7437679700	0.5752842055
6	-0.6584749416	-0.0262378345	-0.6075851164
7	-0.2572413956	-1.7526847185	0.2786458184
8	0.0867883241	0.6997014259	-0.3851229298
9	0.0819209085	-0.3130324871	0.4021227367
10	-0.0522245403	-0.0671648703	0.0179947488
11	0.1758885306	-0.0077780532	-0.6761870633
12	-0.4053798946	-0.3779348332	-0.2003251959
13	-0.7894325183	0.2286216631	0.7395682465
14	0.4319708408	-0.2016704625	1.0825475951
15	0.1920435394	0.7720825546	-0.0303277179
16	0.5366628938	0.2331858296	-0.0986377318

Table E (Continued)

w_j	
1	0.269093838
2	-0.255367345
3	0.482803564
4	-0.352827695
5	0.337716139
6	0.040173864
7	-0.319326901
8	-0.792509988
9	-0.562055839
10	0.329889438
11	-0.174212238
12	-0.188651128
13	-0.365068734
14	-0.468973333
15	-0.735292912
16	-0.183519826
17	-0.312465693