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A bibliography on nonlinear system identification

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Abstract

The present bibliography represents a comprehensive list of references on nonlinear system identification and its applications in signal processing, communications, and biomedical engineering. An attempt has been made to make this bibliography complete by listing most of the existing references up to the year 2000 and by providing a detailed classification group. © 2001 Elsevier Science B.V. All rights reserved.

Keywords: Bilinear systems; Communications; Hammerstein models; Hermite polynomials; Nonlinear systems; Signal processing; Volterra series; Wiener models

Although the title of this bibliography suggests only papers that deal with nonlinear system identification, the present bibliography lists papers that treat various aspects associated to the theory of nonlinear systems: identification, prediction, implementation, sampling, approximation, equalization, inversion, input signals, etc. This bibliography lists all the papers that were collected previously in the bibliography [81]. In addition, the present bibliography includes most of the references which have appeared in the period 1979–2000. To the best knowledge of the authors, this bibliography appears to be the most complete source of references on nonlinear system identification. The authors hope that this new updated bibliography on nonlinear systems will help the researchers from the signal processing and communications communities. Several references on biomedical and neural network topics have been included, but references that deal with control engineering applications have not been considered. The authors have also tried to fit most of the presented references in a classification group and to design a detailed classification group. Due to the difficulties encountered in finding the references pertaining to this bibliography, several important references may be missing. Therefore, the authors would like to apologize in advance to all authors whose works were omitted in this bibliography. Finally, the authors would like to thank Professor Martin Schetzen, Northeastern University, Boston, MA, for his kind help in providing several references and for supporting this project.

Classification

1. **Survey Papers and Books**
[34], [68], [81], [96], [139], [584], [657], [872], [936], [1010], [1026], [1111], [1164], [1205], [1333], [1334], [1378]

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2. **Volterra and Wiener Series Theory**
[38], [81], [89], [96], [129], [177–179], [189], [218], [411–413], [529], [735], [936], [968,969], [1010], [1041], [1110], [1111], [1126–1136], [1155], [1164], [1165], [1333], [1334], [1340], [1378], [1392]
3. **Identification of Nonlinear Systems**
[35], [47], [60], [61], [96], [129–155], [190], [202], [204], [215], [257], [287], [288], [365], [369], [400], [428], [429], [442], [462–464], [473], [509], [530], [586], [609], [639], [675], [681], [686–701], [846], [936], [943], [945], [991], [997], [1033–1036], [1089], [1107], [1111], [1115], [1116], [1155], [1164], [1170], [1171], [1246], [1282], [1287–1294], [1379]
4. **Hammerstein Model**
[135], [183–185], [242], [289], [362], [431], [492–496], [523], [528], [574], [586], [695], [724], [928], [940], [995], [1053], [1245], [1246]
5. **Walsh Functions**
[118], [412]
6. **Hermite Functionals**
[70], [74], [81], [223], [485], [491], [757]
7. **Laguerre Transform**
[770], [846], [1115]
8. **Uryson Operator**
[429], [430]
9. **Fourier Series and Transforms**
[66], [223], [336], [411], [491], [724], [770], [1342], [1343], [1344]
10. **Exact and *p*th-Order Inverses**
[224], [225], [631], [920], [1076], [1148], [1163], [1164]
11. **Cyclostationarity**
[127], [442–446], [1031–1035], [1180], [1337], [1338]
12. **Higher-Order Statistics**
[472], [473], [482], [709], [711], [718], [921], [922], [936], [949], [1008], [1033], [1034], [1036], [1073], [1102], [1107], [1108], [1289], [1290], [1295]
13. **Recursive/Adaptive Identification**
[185], [293], [314], [337], [371], [387], [400], [457], [686], [764], [765], [813], [857], [937], [1235], [1379], [1381]
14. **Input Signals**
[62], [65], [66], [134], [136], [139], [141], [363], [364], [514], [539], [571], [629], [838], [839], [941], [942], [944], [1078], [1211], [1212]
15. **Persistence of Excitation Condition**
[313], [480], [794], [941], [942], [944], [945], [1211], [1232], [1231]
16. **Nonlinear Transformations of Random Processes**
[3], [209–211], [328], [502], [654], [794], [854], [855], [859], [944], [1101], [1378]
17. **Approximation of Nonlinear Systems**
[384], [406], [407], [945], [946], [947], [975–977]
18. **Sampling of Volterra Systems**
[408], [849], [1293], [1295], [1296], [1297], [1298], [1408]
19. **Structure Detection**
[144], [147], [155], [339], [368], [517], [520], [522–525], [1052]
20. **Tests for Linearity/Nonlinearity**
[521], [561], [962], [1071]
21. **Tests for Gaussianity**
[274], [561]
22. **Separation of Nonlinear Mixtures**
[295], [719], [1273]
23. **Prediction of Nonlinear Systems**
[509], [868], [931], [932], [1170], [1171], [1399]
24. **Efficient Implementation of Nonlinear Systems**
[243], [270], [426], [802–805], [801–880], [975], [977], [1200–1203]
25. **Bilinear Systems**
[212], [213], [311], [312], [313], [400], [425], [435], [487], [613], [739], [897], [898], [899], [1066], [1072]
26. **Applications in Communications**
(a) *Amplifier Nonlinearities*
[4], [29], [32], [91], [102], [111], [166], [167], [170–173], [196], [221], [235–237], [245], [246], [315], [322], [352], [375], [376], [402], [418], [419], [471], [478], [484], [554], [569], [570], [576], [610], [617], [620], [643], [801], [886], [888], [889], [926], [953], [1046–1048], [1120], [1122], [1144], [1145], [1184], [1236], [1239], [1256], [1257], [1274], [1305], [1362], [1363], [1365], [1389]

(b) *Nonlinear Satellite Channels*
[12], [41], [43], [49], [100], [101], [103], [104], [110], [120], [124], [182], [195], [196], [230], [240], [263], [272], [316], [342–346], [351], [355], [356], [380], [511], [512], [555–558], [576], [589], [655], [656], [684], [685], [703], [763], [767], [768], [811], [812], [818], [863], [955], [998], [999], [1012], [1050], [1051], [1121], [1125], [1150], [1188], [1189], [1196], [1258], [1270], [1288], [1304], [1336], [1339], [1348]

(c) *Compensation of Nonlinearities*
[126], [128], [194], [380], [404], [405], [478], [549], [550], [555], [588], [610], [611], [650], [663], [762], [785], [860], [861], [1296], [1298], [1302], [1316], [1347]

(d) *Equalization of Nonlinear Channels*
[1], [2], [5], [92], [103], [108], [182], [226], [255], [260], [272], [290], [371], [388], [409], [462–464], [470], [484], [512], [612], [636–638], [643], [651], [684], [685], [745], [746], [791], [813], [894], [895], [912], [913], [945], [948], [963–966], [985], [993], [1011], [1012], [1082–1088], [1113], [1149], [1167], [1168], [1179–1181], [1258], [1259], [1288], [1303], [1314]

(e) *Blind Identification and Equalization of Nonlinear Channels*
[5], [176], [462], [463], [464], [609], [712], [718], [719], [985], [1033–1036], [1084–1088], [1112], [1180], [1181], [1346]

(f) *Nonlinearities in Orthogonal Frequency Division Multiplexing (OFDM) Systems*
[98], [173], [273], [332], [333], [334], [508], [615], [663], [784], [954], [994], [1082], [1142], [1143]

(g) *Applications in Digital Magnetic Recording*
[1], [2], [67], [108], [109], [128], [267], [279], [290], [382], [386–388], [553], [594], [595], [610], [621], [622], [791], [875], [895], [900], [901], [913], [963], [1113], [1137–1140], [1166–1168], [1260], [1347], [1388]

27. **Applications in Biomedical Engineering**
[449], [582–586], [686–701], [831–847], [968], [971], [1015–1022], [1173], [1192], [1193], [1241–1244], [1255], [1261], [1322–1328]

28. **Applications in Imaging, Speech, Echo Cancelation and Acoustics**
(a) *Compensation of Loudspeaker Nonlinearities*
[405], [406], [409], [434], [436], [598], [630]
(b) *Adaptive Quadratic Filters*
[314], [679], [764–766], [813], [856–858], [1055], [1203–1205], [1206], [1264], [1399]
(c) *Nonlinear Echo Cancelation*
[293], [1199], [1202], [1280]
(d) *Image Processing*
[474], [1056], [1058], [1060], [1062–1064], [1205],

29. **Applications of Neural Networks in Nonlinear System Identification**
[49], [105], [114–117], [182], [241], [255], [260], [263], [279], [359], [589], [590], [651], [745], [814], [992], [1011–1013], [1099], [1259], [1303], [1355], [1362], [1363]

30. **Further relevant leterature**
[6–9], [10,11,13–19], [20–28], [30,31,33,36,37, 39], [40,42,44–46,48], [50–59], [63,64,69], [71–73], [75–79], [80,82–88], [90,93–95,97, 99], [106,107], [112,113,119], [121–123,125], [156–165,168,169], [174,175], [180,181,186–188], [191–193,197–199], [200,201,203, 205–208], [214,216,217,219], [220, 222, 227–229], [231–234,238,239], [244,247–249],[250–254,256, 258,259], [261,262,264–266,268,269], [271, 275–278], [280–286], [291,292,294,296–299], [300–309], [310,317–319], [320,321,323–327, 329], [330,331,335,338], [340,341,347–349], [350,353, 354,357,358], [360,361,366,367], [370,372–374, 377–379], [381,383,385,389], [390–399], [401,403, 410,414–417], [420–424, 427], [432,433,437–439], [440,441,447,448], [450–456,458,459], [460,461, 465–469], [475–477, 479], [481,483,486,488,489], [490,497–499], [500,501,503–507], [510,513,515, 516,518,519], [526,527], [531–538], [540–548], [551,552,559], [560,562–568], [572,573,575, 577–579], [580, 581,587], [591–593,596,597,599], [600–608,614, 616,618,619], [623–628], [632–635], [640–642],

[644–649], [652,653,658–662,664–674, 676–678,680,682,683], [702,704–708], [710, 713–717], [720–723,725–729], [730–734,736–738], [740–744,747–749], [750–756,758,759], [760,761,769], [771–779], [780–783,786–789], [790,792,793,795–799], [800], [881–885,887], [890–893,896], [902–909], [910,911,914–919], [923–925,927,929], [930,933–935,938,939], [950–952,956–959], [960,961,967], [970,972– 974,978, 979], [980–984,986–989], [990,996], [1000–1007,1009], [1014], [1023–1025,1027–1029], [1030,1037–1039], [1040,1042–1045,1049], [1054,1057,1059], [1061,1065,1067–1069], [1070, 1074,1075,1077,1079], [1080,1081], [1090–1098], [1100,1103–1106,1109], [1114,1117–1119], [1123, 1124], [1141,1146,1147], [1151–1154,1156–1159], [1160–1162,1169], [1172, 1174–1178], [1182,1183,1185–1187], [1190, 1191,1194,1195,1197,1198], [1207–1209], [1210, 1213–1219], [1220–1229], [1230,1233,1234,1237, 1238], [1240,1247–1249], [1250–1254], [1262, 1263,1265–1269], [1271,1272,1275–1279], [1281, 1283–1286], [1299], [1300,1301,1306–1309], [1310–1313,1315,1317–1319], [1320,1321,1329], [1330–1332,1335], [1341,1345,1349], [1350–1354, 1356–1359], [1360,1361,1364,1366–1369], [1370–1377], [1380,1382– 1387], [1390, 1391, 1393–1398], [1400–1407,1409,1410].

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