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31. If (e is MN) and (ce is ZE) then (Ufc is NH) (1)

32. If (e is SN) and (ce is ZE) then (Ufc is NH) (1)

33. If (e is ZE) and (ce is ZE) then (Ufc is VL) (1)

34. If (e is MP) and (ce is ZE) then (Ufc is NH) (1)

35. If (e is HP) and (ce is ZE) then (Ufc is NH) (1)

36. If (e is EN) and (ce is MP) then (Ufc is L) (1)

37. If (e is HN) and (ce is MP) then (Ufc is H) (1)

38. If (e is MN) and (ce is MP) then (Ufc is M) (1)

39. If (e is SN) and (ce is MP) then (Ufc is NH) (1)

40. If (e is ZE) and (ce is MP) then (Ufc is M) (1)

41. If (e is MP) and (ce is MP) then (Ufc is H) (1)

42. If (e is HP) and (ce is MP) then (Ufc is L) (1)

43. If (e is EN) and (ce is HP) then (Ufc is H) (1)

44. If (e is HN) and (ce is HP) then (Ufc is H) (1)

45. If (e is MN) and (ce is HP) then (Ufc is H) (1)

46. If (e is SN) and (ce is HP) then (Ufc is [illegible]) (1)

47. If (e is ZE) and (ce is HP) then (Ufc is EH) (1)

48. If (e is MP) and (ce is HP) then (Ufc is L) (1)

49. If (e is HP) and (ce is HP) then (Ufc is NL) (1)

VI. CONCLUSION

In this paper, a Fuzzy-MRAC scheme is proposed to replace the Neural Network controller. A detailed simulation comparison between the three schemes has been carried out. The proposed Fuzzy-MRAC controller shows very good tracking results when compared to the conventional MRAC and the NN-MRAC system. Simulations and analyses have shown that the transient performance can be substantially improved by proposed Fuzzy-MRAC scheme. Fuzzy-MRAC not only improves performance but also help in reduction of hardware required. Simulation results show that, Fuzzy-MRAC in the severe model mismatch case still can get better control performance, with enhanced satisfied self-adaptability and the resistance ability to internal and external disturbances than the conventional control system significantly.

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