First through the input state detection circuit current accurately detect clearance on machining process,Then it compared with best gap average current, get two input variables--- gap of current deviation and deviation rate of change,The amount of output is the adjustment of the drive system change, and then to the three precise quantity into fuzzy quantity. Accurate quantity and set the deviation change rate as [- 4 + 4] change between continuous quantity, setting of [- 6 + 6] between the continuous amount of change, can draw their membership curve:

Get $E(t)$, $Ec(t)$ and $I(t)$ of the fuzzy subsets are

$$\tilde{E} = \{PL, PM, ZE, NM, NL\} \quad \tilde{E}c = \{PL, PM, ZE, NM, NL\}$$

$$\tilde{I} = \{PL, PM, PS, ZE, NS, NM, NL\}$$

Before using the neural network, and it is initialized to the learning and training, and input or adjust the fuzzy rules, and the introduction of fuzzy neural network controller.

6 Conclusion

Fuzzy control and neural network combining fuzzy neural control system, it is one of research directions in the current popular attention.The advantage of both is not entirely dependent on the model of the controlled object.A fuzzy neural network controller is usually composed of a neural network and fuzzy algorithm.Among them, the fuzzy controller using fuzzy inference rules, is the imitation process uncertainty indecision-making behavior, but to automatically generate rules from experience, and modify the self-learning function of the control decision making is also imperfect.

The introduction of the neural network performance index in the process of fuzzy control is better,It to make the fuzzy neural control system in the process of edm in-depth research and extensive application, provides a great possibility.

References

1.Zhao Wansheng; technology of EDM)[M]. ;Haerbin: Haerbin University of Technology Press ,2000.
2. Muben KangXiong . theory and technic of EDM [M] . （Dongjing： ），1972.
3. Gang F.A New Stable Tracking Control Scheme for Robotic Manipulators.IEEE Trans Sys,Man,Cybem,1997,27(3):510-516.
4.Lewis F L,et al.Neural Net Robot Controller with Guaranteed Tracking Perfomance.IEEE Teans Neural Networks,1995,6(3):703-715

