

Chapter 10

Summary and Conclusions



The arc sound signal had been studied for many years. The research scope is ranging from mechanism to control system. The SJTU have been doing a lot of works about the online welding quality monitoring. Many fundamental research have been implemented about the characteristics of welding sound, the processing of welding sound signals and the pattern recognition of the welding sound signal and welding penetration. All of these studies provide the technical basis for achieving the welding automation using acoustic signal. The automatic welding can only be achieved in laboratory. For industrial application, the arc sound signal still cannot offer stable control accuracy for the monitoring system. The online GTAW welding monitoring still has some problems to solve. Therefore, to achieve the monitoring of GTAW welding quality using arc sound signal will be the research topic in the future.