

Investigation of Carbon Materials for Capacitive Deionization

Toshiki Tsubota

Department of Applied Chemistry, Faculty of Engineering, Kyushu Institute of Technology

Summary

Capacitive deionization (CDI) is known as to be a technique for the making fresh water from sea water. So far, many research works related to the CDI technique have been reported from various countries although there is few report about CDI in Japan. Because the deionization mechanism of CDI is the same phenomenon as the electrical storage process of electric double layer capacitor (EDLC), the deionization process of the CDI technique can be used as the electrical storage process. Therefore, CDI technique could have an advantage in the energy cost for the running process. The amount of the fresh water produced by CDI apparatus could be small because the ion species removed from water deposit on the electrode surface. The amount of the removed ion species strongly depends on the kind of the electrode. Therefore, the material development for CDI process should be progressed. In this study, the experimental technique for CDI has been studied.