1067-90-887 **Sylvia Boyd**, School of Inf. Tech. and Engineering (SITE), University of Ottawa, Ottawa, Ontario K1N 6N5, Canada, **Satoru Iwata*** (iwata@kurims.kyoto-u.ac.jp), Research Institute for Mathematical Sciences, (RIMS), Kyoto University, Kyoto, 606-8502, Japan, and **Kenjiro Takazawa**, Research Institute for Mathematical Sciences, (RIMS), Kyoto University, Kyoto, 606-8502, Japan. *Finding 2-factors covering 3- and 4-edge cuts in bridgeless cubic graphs.*

A famous theorem of Petersen states that every bridgeless cubic graph contains a perfect matching, and hence a 2-factor. Then it is easy to see that such a graph has a 2-factor that covers all the 3-edge cuts. A recent paper of Kaiser and Skrekovski shows that every bridgeless cubic graph has a 2-factor that covers all the 3- and 4-edge cuts. In this talk, we provide an efficient algorithm to find such a 2-factor. The algorithm can be used as a preprocess of a simple 6/5-approximation algorithm for finding a minimum 2-edge-connected spanning subgraph in 3-edge-connected cubic graphs. (Received September 16, 2010)