1110-57-97 **Seiich Kamada** (skamada@sci.osaka-cu.ac.jp), Department of Mathematics, Osaka City Univerisity, Osaka, 558-8585, Japan, **Jieon Kim** (jieonkim@pusan.ac.kr), Department of Mathematics, Pusan National University, Busan, 609-735, South Korea, and **Sang Youl Lee*** (sangyoul@pusan.ac.kr), Department of Mathematics, Pusan National University, Busan, 609-735, South Korea. *Quandle cocycle invariants of surface-links via marked graph diagrams.*

By using the cohomology theory of quandles, quandle cocycle invariants and shadow quandle cocycle invariants are defined for oriented links and surface-links via broken surface diagrams. By using symmetric quandles, symmetric quandle cocycle invariants are also defined for unoriented links and surface-links via broken surface diagrams. A marked graph diagram is a link diagram possibly with 4-valent vertices equipped with markers. S. J. Lomonaco, Jr. and K. Yoshikawa introduced a method of describing surface-links by using marked graph diagrams. In this talk, we would like to present interpretations of these quandle cocycle invariants in terms of marked graph diagrams, and introduce a method of computing them from marked graph diagrams. (Received February 13, 2015)