National Conference on Computational Intelligence, Engineering, Science and Technology (NCCIEST – 2018)
30th December, 2018, New Delhi, India.

CERTIFICATE NO : NCCIEST /2018/ C1218914

A STUDY OF SECURITY SCHEMES FOR WIRELESS SENSOR NETWORKS

CHAVAN SIDRAM NAGNATH

Research Scholar, Ph.D. in Computer Science, Dr. A.P.J. Abdul Kalam University, Indore, M.P.

ABSTRACT

Wireless sensor networks (WSN) are ad-hoc mobile networks in which the sensors have limited resources and communication capabilities. Secure communications in some wireless sensor networks are critical. Recently, several secure schemes for wireless sensor networks have been proposed. Localized combinatorial keying (LOCK) proposed by Mohamed Eltoweissy is secure wireless sensor network scheme based on the dynamical key management. In this paper, we present a new wireless sensor network security scheme. Our scheme is based on LOCK scheme and employees ID-based secure group key management. Our schemes have several advantages over the existing LOCK scheme. This scheme improves the wireless sensor network system security. It minimizes the number of key storage requirement and the number of the communication messages for rekeying. In addition, one unique advantage is that it does not affect any other nodes when evicting compromised node or moving the node from one location to another.

Keywords: Wireless Sensor Networks (WSN), Security Schemes, Secure Communications