

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
КАФЕДРА ІНОЗЕМНИХ МОВ
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ
ЦЕНТР**

**МАТЕРІАЛИ
X ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ
КОНФЕРЕНЦІЇ СТУДЕНТІВ, АСПІРАНТІВ ТА
ВИКЛАДАЧІВ
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО
ЦЕНТРУ КАФЕДРИ ІНОЗЕМНИХ МОВ**

**“WITH FOREIGN LANGUAGES TO MUTUAL
UNDERSTANDING, BETTER TECHNOLOGIES AND
ECOLOGICALLY SAFER ENVIRONMENT”**

**(Суми, 24 березня 2016 року)
The tenth all Ukrainian scientific practical student`s,
postgraduate`s and teacher`s conference**

TECHNOLOGY OF DATA TRANSFER IN WIRELESS SENSOR NETWORKS

Zinchenko I.S., student; gr. ES.m-51

*Pochatko T.V., E.L. Adviser, Kulik I. A., associate Professor
Sumy State University, Sumy*

It has been over a decade since then, when we started intensive scientific and technological research of possibilities of using sensors together with the wireless network. The result was the creation of new types of telecommunications networks, wireless sensor networks (WSN) is a new promising technology, which are applied and executed large-scale projects for different industries and military systems.

Intense development of microelectronics has allowed to solve the problem of creating cheap, low consumable, multi-function devices having small dimensions and capable of transmitting telemetric information via radio over short distances. They have become basic elements in the structure of wireless sensor networks - new class of wireless systems that are distributed, self-organized and resilient to failure of individual elements of a network of tiny electronic devices (sensors) with independent power sources. The network nodes are able to relay information using multiple low-powered transmitters and providing a significant coverage area of the wireless system. A distinctive feature of the sensors is a miniature size and low cost, which allows their use in large quantities to create a network of collection and wireless transmission of telemetry data. In this case, the data transfer happens in stages, from one device to another, and the transmission routes are generated automatically

Among the main functional and operational benefits of the WSN should be allocated: loading and self-healing networks; scalable networks with dense placement of nodes in space (from dozens to thousands of devices); high reliability and fault tolerance at the expense of communications redundancy and availability of many alternative routes of delivery of data; low cost and small weight and dimensions parameters of the nodes; high energy efficiency (service life can reach several years with Autonomous power supply units); resistance to the modification of the network topology and changes in the characteristics of the medium of propagation of radio waves; the ability of nodes to jointly process received data and make decisions based on algorithms.