

**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”**

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## WIRELESS ENERGY TRANSMISSION

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Technologies have never played such an important role as nowadays. We can't imagine our world without them. They are spread everywhere.

Wireless energy transmission is transmission by using different electromagnetic wave frequencies. Different frequencies are needed to reach different goals.

In 1928 Hidetsugu Yagi invented magnetron. It wasn't powerful enough to transfer energy but now people use it as a great radio antenna. Development of technology was increased after the Second World War. In 1964 the first microwave-fed helicopter prototype being controlled by radio was developed. In 1968 the proposition to transmit solar energy gathered by solar batteries with using microwave technology was given.

There are five major kinds of wireless transmission: ultrasonic, electrostatic induction, electromagnetic induction, microwave and laser.

Application is wide. We can charge mobile phones all over the room or another place. It has already been implemented in "WiTricity". Also there was a project to help a village be connected to electricity. It is situated in a place that can't be connected by wiring. Orbital energy can also be gathered by it.

The advantages of laser as the most developed transmission technology are:

- small size;
- monochrome light beam;
- easy to control;
- insensitivity to other radiation.

The disadvantages are: high price, needs of straight line between a transmitter and receiver, complexity, efficiency, uselessness in foggy or rainy weather.

Such technologies can help people improve our world. Better technologies provide better future for further generations.