

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
ФАКУЛЬТЕТ ІНОЗЕМНОЇ ФІЛОЛОГІЇ
ТА СОЦІАЛЬНИХ КОМУНІКАЦІЙ**



СОЦІАЛЬНО-ГУМАНІТАРНІ АСПЕКТИ РОЗВИТКУ СУЧАСНОГО СУСПІЛЬСТВА

**МАТЕРІАЛИ ВСЕУКРАЇНСЬКОЇ НАУКОВОЇ КОНФЕРЕНЦІЇ ВИКЛАДАЧІВ,
АСПІРАНТІВ, СПІВРОБІТНИКІВ ТА СТУДЕНТІВ**

(Суми, 21-22 квітня 2016 року)

Суми
Сумський державний університет
2016

Components of electromagnetic circuits, having metamaterial properties, find application in antennas engineering in sufficiently high frequency range: 0.1-100 GHz. The main fields of application metamaterials in antennas engineering are [2]:

- emitters arranged above a high-impedance surface,
- a radiating antennas surface wave,
- reduction of the mutual influence of the antenna elements lattices, including MIMO-devices,
- an increase intensification coefficient of the horn antenna.

1. Negative-refraction metamaterials: Fundamental Principles and Applications / Ed. by G.V. Eleftheriades, K.G. Balmain. IEEE Press, A John Wiley & Sons, Inc., 2005. 418 p.

2. Metamaterials Handbook: Vol. I. Phenomena and Theory of Metamaterials. 926 p. Vol. II. Applications of Metamaterials. 724 p. / Ed. by F. Capolino CRC Press, Taylor & Francis Group, 2009.

SOLIDWORKS

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Nowadays, parametric 3D computer-aided design (CAD) of solid and surface models are the principal means for design ideas communicating and developing new products and systems. 3D parametric modeling facilitates visual thinking and design process. There are many programs for creating 3D models.

SolidWorks is upper level CAD, covering the whole range of work tools required for three-dimensional parametric planning and design.

There are several variants for delivering this software: SolidWorks Premium, SolidWorks Professional, SolidWorks Standard, SolidWorks Education Edition.

SolidWorks Education Edition is the simplest configuration with a minimum of modules. It has the most necessary tools for training in educational institutions.

The following program is SolidWorks Standard. It has more advantages than tools of the previous version.

The next one can be SolidWorks Professional. The majority of experts will be satisfied with the assembly tools of this package. It will help solve almost any problem.

SolidWorks Premium is the best variant. There is everything for surface and solid modeling.

Photoworks is application for photorealistic rendering that allows creators to assign materials for parts, colour them as a person likes, put a camera and light. Photoworks permits to get a pretty photorealistic images, which subsequently can be shown to the customer.

Construction in SolidWorks is not limited to the development of three-dimensional parts. The utility is often used to automatically create drawings on a given three-dimensional model. This program eliminates designer's errors, appearing as a result of manual work. SolidWorks supports a variety of draft standards. They are ANSI, GOST, ISO, JIS, DIN, GB, and BSI.

Three-dimensional modeling has more benefits than a linear design. SolidWorks software allows to see the future product from different angles and gives it a realistic look in accordance with the chosen material.

AUGMENTED REALITY IS THE NEXT STEP OF INFORMATION TECHNOLOGIES

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Every day something changes. It's integral part of the modern world. They say: "He who owns the information owns the world". And everybody knows it is really so. Its influence on mankind's development is amazing.. Every new stage of development follows the breakthrough in methods of storing and transferring information. The invention of writing and printing press gave rise to scientific progress and technological revolution. They contributed improving and spreading education and eradication of illiteracy. It is equally important that each of these breakthrough are connected with fundamental changes in society. In fact press, telegraph and telephone essentially changed relationships between people. Nowadays mobile communication and Internet are spreaded all over the world. Though 40 years ago they were only a science fiction. Their appearance was powerful as an earthquake. You can't imagine your routine