POSSIBILITIES AND SIGNIFICANCE OF THE SOLAR OVEN DEVISE FOR HIGH TEMPERATURES OPERATING IN SMALL LABORATORY CONDITIONS

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Annotation: The point of discussion in this article are creating construction of the modern "SOLAR OVEN" device on the basis of physical-technical solutions and referring to certain advancements in the field of science, as well as means of their effective utilization. The very recommended construction has been proven to differ in terms of its high rate of sun ray resistance, its ecologically friendly way of obtaining thermal energy, discrepancies and superiorities of facet concentrator compared to integral concentrator, also economical efficiency in terms of utilized materials.

Key words: Paraboloid, quartz mirror, resistant, polyether, grinding, glue, razor cutter, concentrator, sun rays, thermal energy, facet, foil.

It's a well-known fact that nowadays, the worldwide problem of energy has become a burning issue, and this problem is being treated with help of variety of alternative energy types such as wind generators, Solar ovens, sun batteries and other sources of energy. The methods of effective utilization of alternative means of energy are being studied by specialists of European countries. Namely, various models are being offered so as to explain the dynamics of sun batteries and Solar ovens from specialists of the following countries: the USA, Germany, Russia, Spain, France, Switzerland, England, Italy. Moreover, several classifications of the effect from the flow of rays coming from the sun in the usage of the Solar oven and its efficiencies were determined by the scientists of the Institute of Scientific Researches of the Republic of Uzbekistan. Thus, effectiveness of sun batteries and Solar ovens were demonstrated.

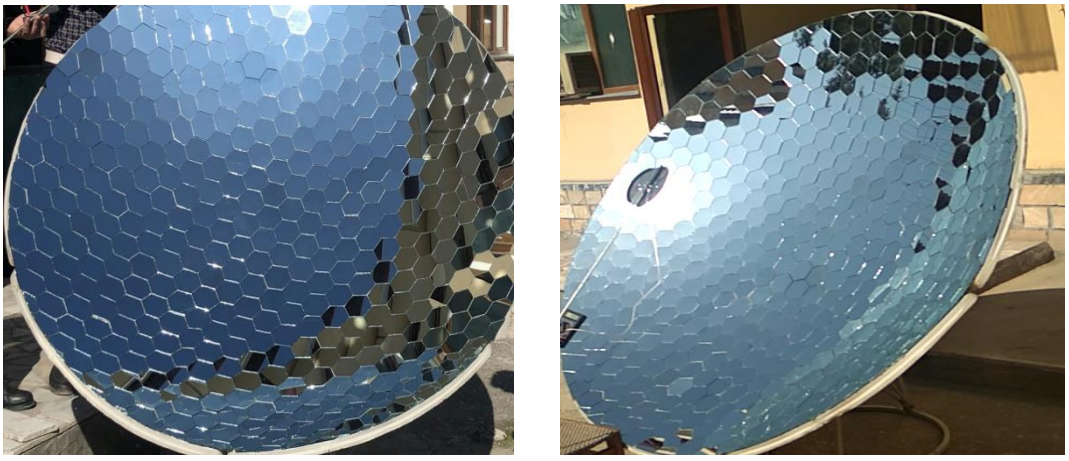
However, construction of Solar ovens has been studied by a few. The researches and projects carried out up to this day were directed to different constructions. The models of Solar ovens

are usually static, hence the conditions of their movement from one place to another, braking them into pieces and fixing again haven't been fully tackled.

With relation to the aforementioned, the main objective of the research in this article consists of production of construction of Solar ovens which operate in the conditions of small-sized laboratories and with their aid, develop the field of photoenergetics, as well as observe new materials through melting different substances.[4,5,]

The following tasks should be acquired in order to achieve the objective:

- To organize the construction of Solar ovens working in conditions of small-sized laboratories (the laboratory model is created);
- To analyze photo-electrical and thermo-physical qualities of various semi-conductors with the aid of Solar oven (researches are being conducted);
- To obtain new materials through melting processes of different substances with the help of Solar oven and observe them (researches are being conducted); [1,2,]
- Certainly, performance of thorough analytical tasks is required in order to tackle the mentioned issues.



Picture 1. "Solar oven" device: quartz mirrored reflectors.

The scientific research is mainly directed towards solving the issues regarding development of fields of semi-conductor materiality and semi-conductor physics and on their basis, creating highly effective, energy and resource saving, alternative and recyclable means of energy, as well as development of fields of new material technologies through melting various substances. [6]

While conducting the scientific research:

- Semi-conductor materials that are inexpensive on a highly noticeable level, the waste obtained through the production of semi-conductors, semi-conductor materials, in addition, any type of outdated semi-conductor instruments and solar elements are utilized;
- Various materials with melting temperature of 1000^0 C, namely, new materials, polymers and their compositions are prohibited to use.[3]

Thus, it will allow possibility of production of energy recycling sources of brand new type and consisting of affordable materials of different measures, as well as creating their compositions.

The method of research is very simple. On this matter, scientific work is being conducted on a number of construction models of solar ovens, also a lot of problems and inconsistencies have been isolated. Most importantly, the laboratory model of the solar oven was created and scientific analytical research is being carried on it. With the aid of solar ovens structure of electric energy is being modernized, energy consumption is being reduced and methods of establishment of effective structure of energy saving have been realized. More intense strengthening of competition of our economy with the economy of developed countries, improvement of social welfare by fulfilling its demand for energy with sources of alternative energy, all of these depend from many perspectives on our existent resources and on the first place on our ability to utilize electric energy resources.

These objectives are of vital significance at the moment: conducting high technological projects regarding the usage of solar energy in the industry, making practical use of the possibilities provided by solar energy in social fields and various branches of economics on the basis of advanced and economically efficient technologies. In addition, prevention of energy deficiency with the help of solar energy, most importantly attracting investment into development of social fields, as well as contributing to the development of our country with even more striking achievements.

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