

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

МАТЕРІАЛИ ІХ МІЖВУЗІВСЬКОЇ
НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ
КАФЕДРИ ІНОЗЕМНИХ МОВ

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THE FLOWER-SHAPED STARSHADE MAY BE USED TO FIND EARTH-LIKE PLANETS

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The technological progress is changing people minds. We have changed the manner of thinking while science is developing. The exploring of different planetary bodies like the Earth-like planets will be our next step in the nearest future.

Astronomers believe that every star in the galaxy has a planet, one fifth of which might possess life. Nevertheless, we have not seen any of them yet. Everything we can see is the light of the nearest stars, which are billion times brighter than the planets' light. The light from the star is diffracting and scattering inside the telescope, creating very bright image and we cannot see the planet at all. Researches starts from the idea of using eclipse effect, but because of the phenomenon of diffraction the round shape is not distinct enough. In case of using only round screen the light will diffract like water bending around a rock in the stream. To control diffraction scientists have decided to feather the edges, that is why they consider using flower petal-shaped screen to be the best way to solve this problem. That brings Jeremy Kasdin and his team to extraordinary piece of equipment: a flower petal-shaped "starshade". They want to build a space telescope that will be able to design the image of an Earth-like planet near another star and to find out whether it can have life using a "starshade". Placed at a distance of 50,000 km from a telescope "starshade" will create a shade in which the space telescope will be able to create the image of planets near the distant stars.

During the summer internship 2013, four undergraduates from California built four petals. The research group successfully ran special tests 16 times. All they have to do is to complete the "starshade" and to find the way they will get the "starshade" at a distance of 50000 km away from a telescope. A lot work to do, but scientists are sure, that this technology is one of the better ways to see Earth-like planets in nearest future.