

Graphene based dome shaped phase array antenna for space communication

Seeking parties interested in licensing and commercializing of technology.

Applications:

- Commercial Automotive, High-Speed Train, Aeronautical and Military Mobile Terminals

Technology Description:

This invention is a graphene based communication and solar panel system. It comprises of a dome shaped structure made of aluminum or copper with arrays, embedded with solar cells, a stepper motor control and a transceiver. The solar cells are coated with graphene molecules wherein an electromagnetic (EM) wave directed onto the graphene surface perpendicular to that surface excites the electrons in the graphene into oscillations. That electrons interact with the dielectric material in the solar cells on which the graphene is mounted, and thereby forming surface plasmonic polaritons (SPP). It is bled off into the transceiver, when transmitting, the electron density of the graphene is modulated to drive formation of the SPP, which then convert into EM waves and propagate away, taking the energy pumped into the SPP.

Advantages of the Technology:

- The system works as a self-powered efficient dual module.
- Improved the efficiency by coating with the graphene material which reduces the reflection and heat loss.

Development Status:

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Technology Transfer from the institute:

For more details

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