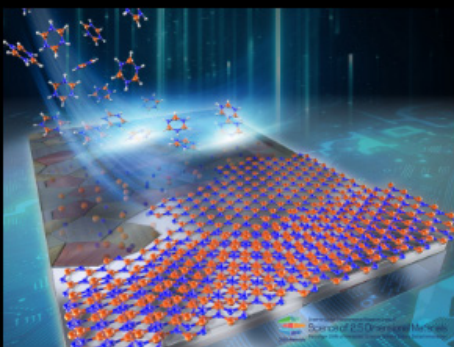
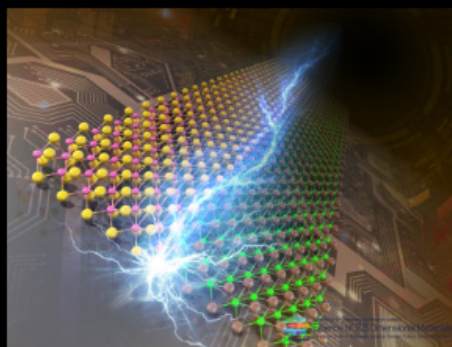


ABOUT 2.5D MATERIALS PROJECT

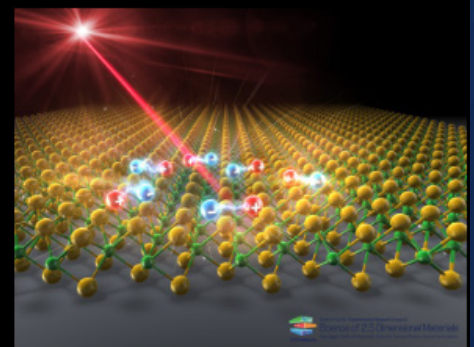
Two-dimensional materials, such as graphene, can be stacked by van der Waals forces with arbitrary control of materials and angles, giving rise to a major paradigm shift in materials science, because it provides a synthetic method that is not bound by conventional bonding. Furthermore, a unique two-dimensional nanospace exists between the layers of stacked two-dimensional materials, which can be the stage for new science. Therefore, by introducing the new ideas of “degree of freedom of accumulation” and “two-dimensional nanospace” to diverse two-dimensional materials, this project proposes “2.5D materials science: a paradigm shift in materials science toward social transformation,” which is a great leap forward from conventional research. In this field, we symbolically express the new possibilities of two dimensions plus α as 0.5 dimensions, and through an all-Japan network, we will develop research that will revolutionize conventional materials science.



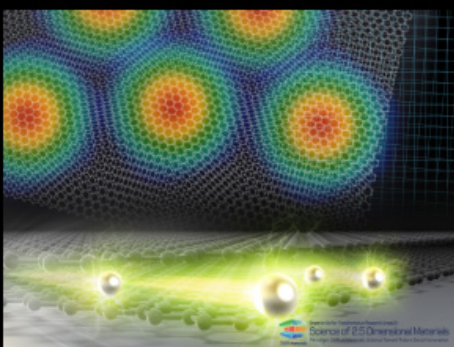
A01 Material Creation for 2.5D Structures



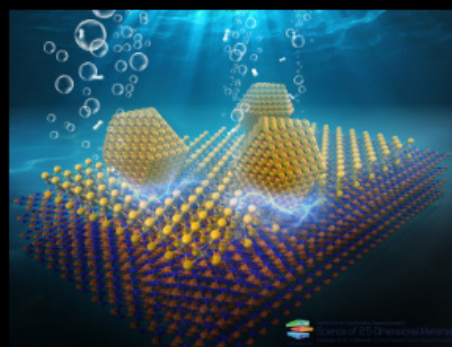
A02 Construction of 2.5D Integrated Structures



A03 Development of Analysis Techniques for 2.5D Structures



A04 Exploration of Novel Physical Properties of 2.5D Structures



A05 Development of 2.5D Structures for Electronic, Photonic and Energy Applications



Joint Research Centers



Grant-in-Aid for Transformative Research Areas(A)

Science of 2.5 Dimensional Materials

Paradigm Shift of Materials Science Toward Future Social Innovation

Secretariat office (In Kyushu University)
6-1 Kasuga Park, Kasuga. Fukuoka 816-8580, Japan
e-mail : secretary@25d-materials.jp

<https://25d-materials.jp/en/>

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