

TOPIC: TWO-DIMENSIONAL MATERIALS: CURRENT PERSPECTIVE AND PROSPECTS

Two-dimensional (2D) materials is one of the hottest topics in science and technology. Since the isolation of graphene in 2004 till now several 2D materials have been studied including transition metal dichalcogenides and phosphorone. The use of these materials in applications that range from coatings and paints to electronics and spintronics is a challenge because of issues associated with their resistance to oxidation and the need for new mechanical means of dealing with films that are atomically thin. Hence, a new kind of engineering of atomically thin films has to be build from scratch in order for address large scale industrial applications of these materials. I will review the history of these fields and point out some of the directions that the field will move in the near future.