

# Properties, synthesis, characterization and potential applications of 2D materials

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Nastupno predavanje

## **Sažetak:**

Two-dimensional (2D) materials are a novel class of materials that has been extensively researched since their discovery almost two decades ago. Scientific and technological interest in 2D materials is motivated by the fact that today's electronic devices are based on planar microarchitectures. 2D materials are considered a promising basis for a new generation of electronic and other devices due to their superior electronic, optical and mechanical properties. In this lecture I will present the brief history and properties of selected examples of 2D materials, starting with graphene and following with other common 2D materials, like members of transition metal dichalcogenide (TMD) monolayers family. Furthermore, I will give an overview of the different methods of their synthesis and typical characterization methods. Lastly, I will introduce some examples of hybrid 2D materials heterostructures and use of 2D materials as support for other low-dimensional nanostructures as well as potential applications.