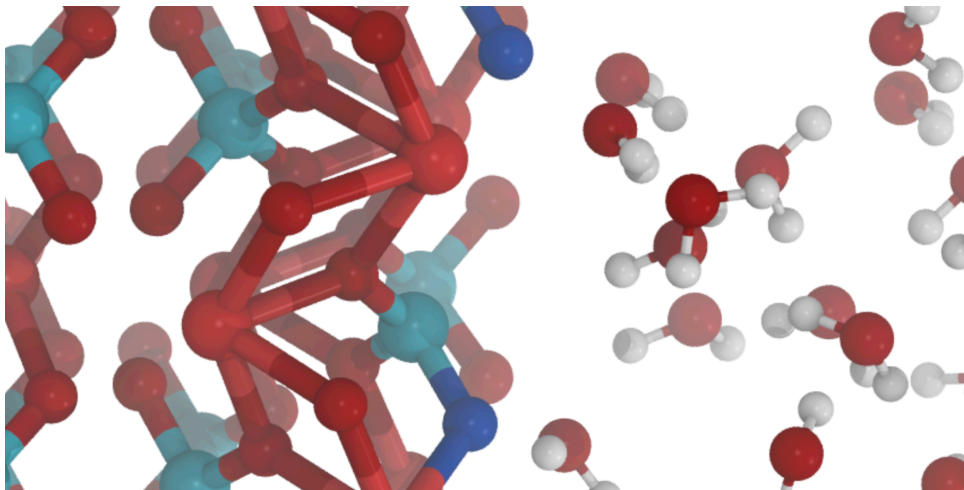


MASTER THESIS PROJECT

Assessing the effect of surface nitrogen on the water-splitting reaction on BiVO_4

By 2050, a quarter of global power generation is hoped to come from solar devices (either solar-to-electricity or solar-to-fuel conversion). BiVO_4 has attracted attention as a promising photoanode material for photocatalytic water splitting. It is also considered a platform for development of complex transition-metal oxide photoanodes. In recent years, various strategies to improve the efficiencies of photoanodes based on BiVO_4 have been proposed, for instance, doping, coating, or photocuring and photocharging.



The aim of this project is to **study the effect of nitrogen doping on the performance of BiVO_4** . In particular, interaction between **surface nitrogen, defects and photogenerated charges** will be studied. The effect on the water-splitting reaction will be assessed by **calculating overpotentials for oxygen evolution reactions**.

If you are interested in the project, please contact Asst. Prof. Julia Wiktor (julia.wiktor@chalmers.se) in the Condensed Matter and Materials Theory division at the Department of Physics.