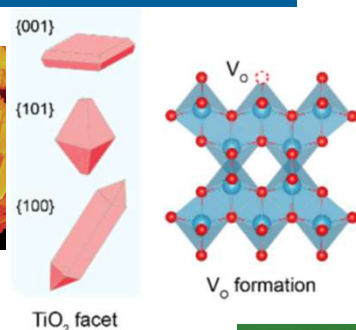


Beke Division - Optically Active Nanostructures (part of the Galli Group)

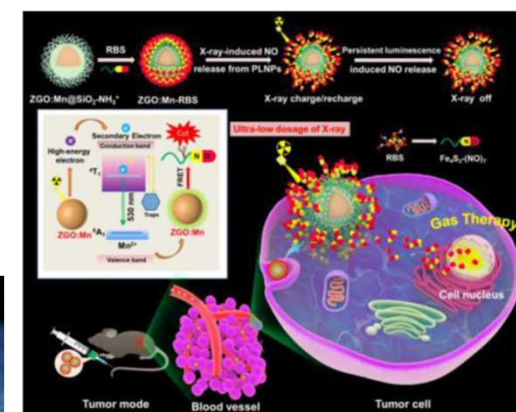
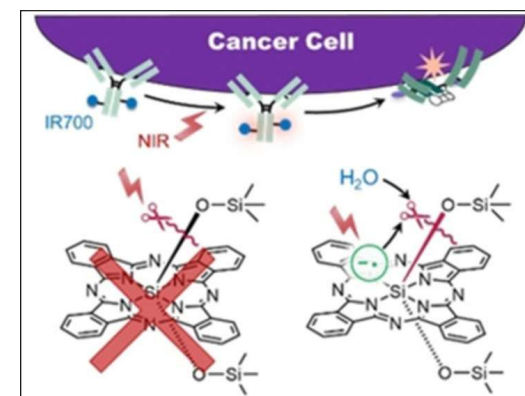
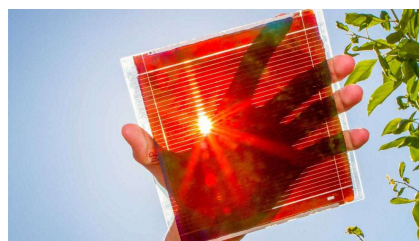
Materials Science



Properties of Materials



appliaction



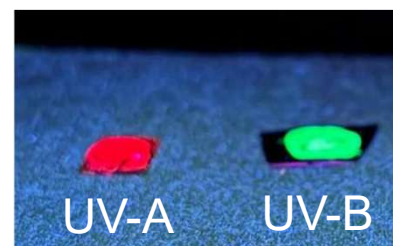
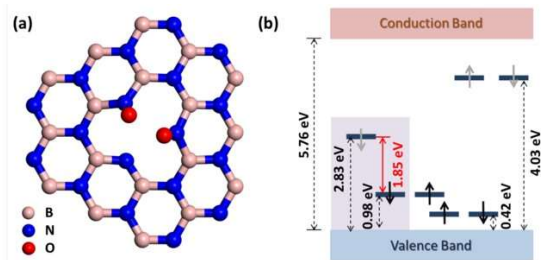
MXenes

SiC / diamond

TiO₂

hBN

Doped AB₂O₄ crystals



Therapy / Sensing Military application

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X-ray

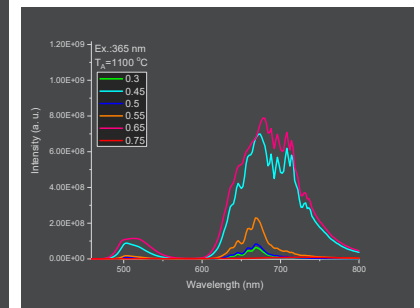
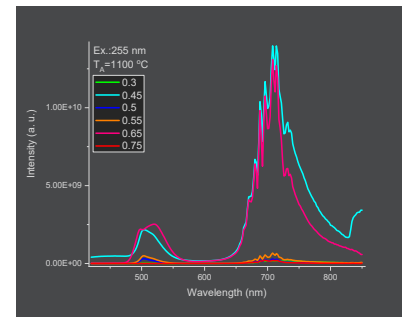
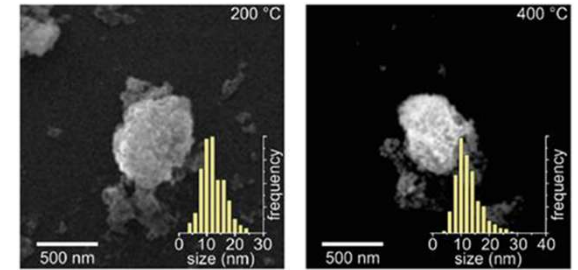
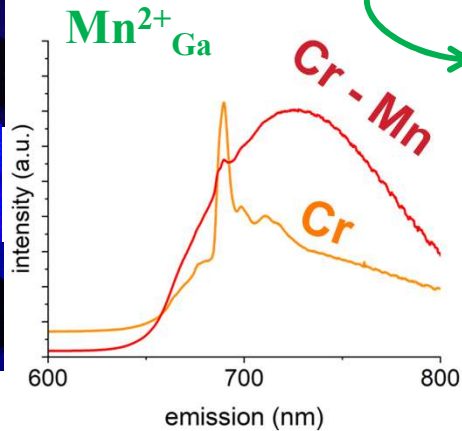
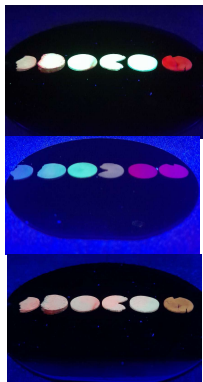
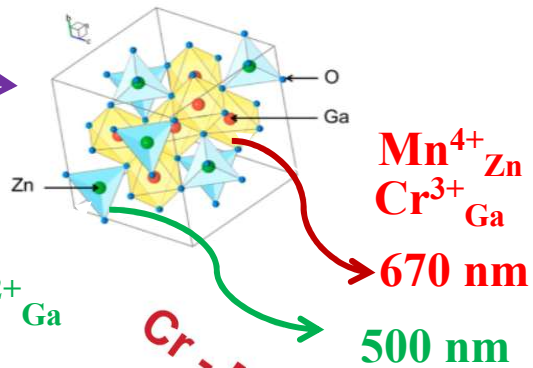
UV

Long lasting
luminescence

Scintillators

Quantum emitters

Quantum sensing?



Doped AB_2O_4 crystals

hBN SiC diamond

TiO_2

How can you help – work with us

beke.David@wigner.hun-ren.hu

- Optics & Photonics:** Work with ODMR, luminescence, integrating-sphere measurements, and supercontinuum lasers to study and control material properties.
- Custom Optical Instrumentation:** Help design and build advanced optical setups for spectroscopy, quantum measurements, and materials analysis.
- Scientific Programming:** Develop software for data acquisition, instrument control, and automated analysis to support our experiments.
- Materials Science:** Investigate point defects, engineer new materials, and synthesize samples for optical and quantum applications.
- Condensed Matter Physics:** Explore light–matter interaction, and study magnetic and optical properties relevant to quantum materials and functional devices.

