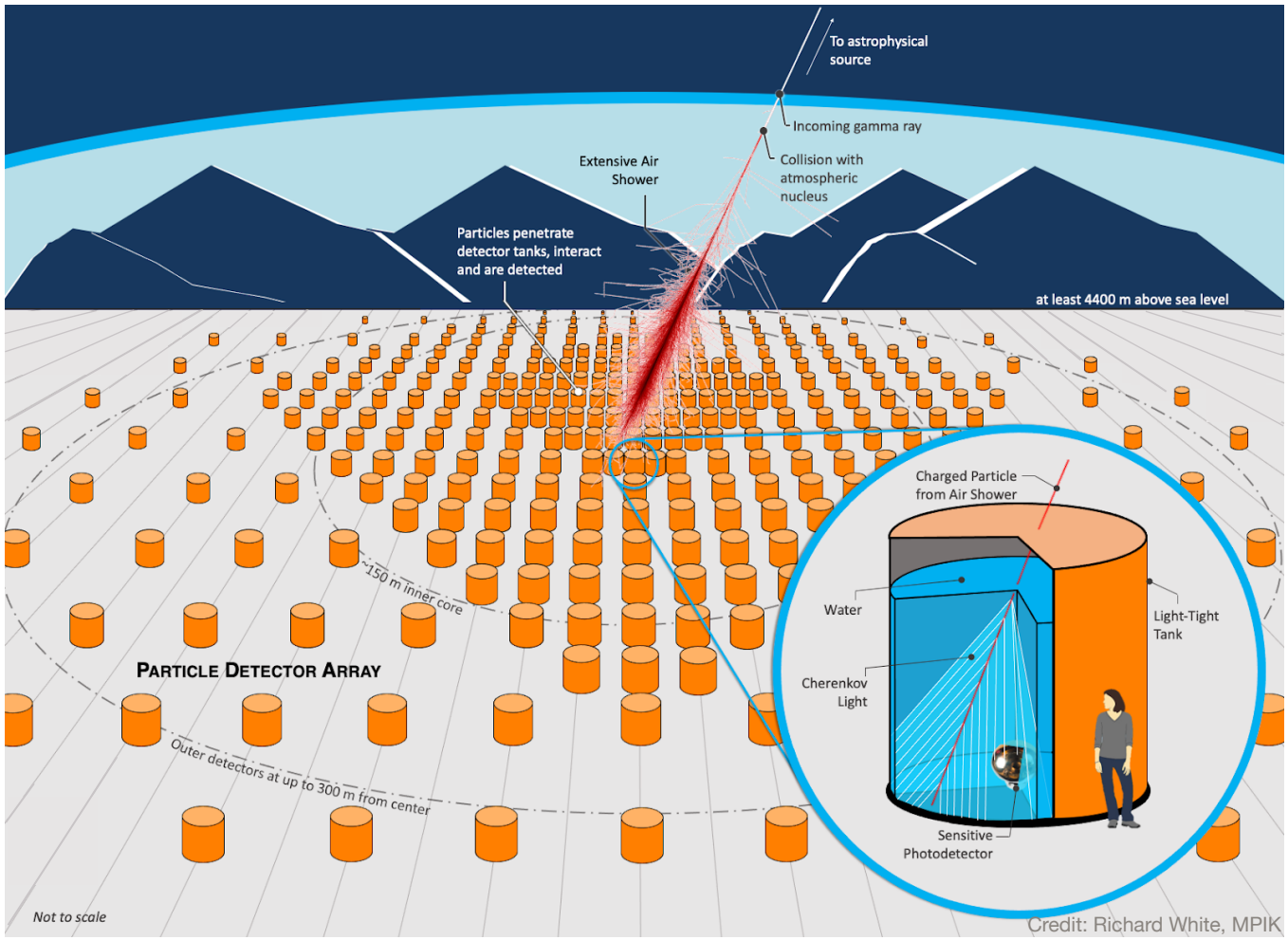
The Southern Wide-field Gamma-ray Observatory **(SWGO)** is an astrophysical **gamma-ray** observatory to be built in **South America.**

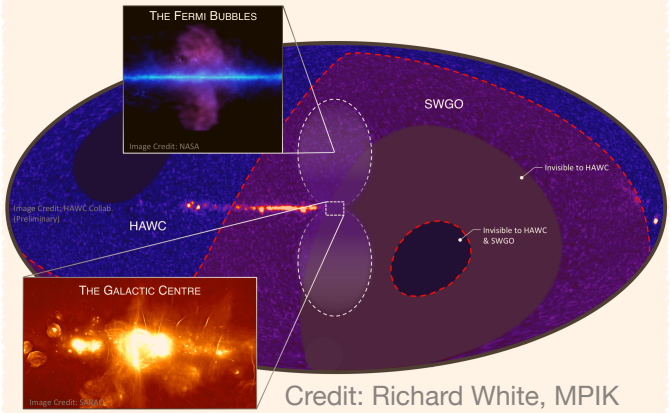
SWGO will detect **very high-energy** light known as **gamma rays** entering the Earth from outer space.

The **SWGO Collaboration** involves more than **200 scientists** from **14 countries**.



SWGO will be a high-altitude gamma-ray astrophysical observatory installed over **4,400 meters above sea level.** The detector will consists of **thousands of detector units**, which could be deployed as an array of individual detector units, or assembled in a building. Detector units could be **spread on the ground** or **submerged in a lake**. The detector will **cover square kilometer** and each detector will have several tons of water, while the whole array will contain several thousands of tons of it.

SWGO will be **the first** high-altitude **gamma-ray** observatory to provide wide-field coverage of a large portion of the southern sky.



Credit: Richard White, MPIK

Gamma-ray sky image as seen with the (current) HAWC and (future) SWGO observatories.

SWGO will **complement current** and **future instruments** such as HAWC, LHAASO, and CTA, a worldwide multi-messenger effort, to **unveil extreme astrophysical phenomena.**

SWGO will observe the **gamma-ray sky** at the **highest energies**, enabling studies of extreme cosmic objects such as **supermassive black holes** and **remnants of supernova explosions** while also probing the nature of **dark matter**.

SWGO also aims to develop a **positive relationship** with the host country and the local community.

Want to know more?

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SWGO

The Southern Wide-field Gamma-ray Observatory

Credit: HAWC