



## **Discovering dark matter in the sky**

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### **Abstract**

The nature of dark matter is one of the greatest mysteries of contemporary Physics. Dark matter exists, but what is its fundamental nature? The particles of which it would be made up are likely to produce photons and high-energy charged particles at rates detectable by current telescopes. Using so-called indirect research, we want to detect the flux of stable species produced by dark matter in excess of the astrophysical backgrounds already present. The discovery of such a signal would allow us to study for the first time the properties of the particles that make up dark matter. How are scientists trying to unveil dark matter in the sky? What are the current results and the challenges for the future?

#### **Bio**

Francesca Calore is a staff researcher at the French National Center for Scientific Research (CNRS) at the Annecy-le-Vieux Theoretical Physics Laboratory (LAPTh). After completing a joint Ph.D. at the University of Hamburg, Germany, and the University of Turin, Italy, she has held a postdoctoral position at the Center of Excellence for Gravitation and Astroparticle Physics (GRAPPA) at the University of Amsterdam, Netherlands. She is an expert in dark matter searches with astroparticle experiments and high-energy astrophysics.