

A 27-kilometre ring

Accelerator smashing speeded-up protons together!  
Large Hadron Collider

**LHC**  
@Geneva, Switzerland

p proton      p proton

Where Protons Meet:  
The Collision Point

Enlarge

Produced many particles with the collision energy

480 m

Underground Rock

FASER

Only the elusive muons, neutrinos, and potential new particles can pass directly through bedrock to their point of collision.

$\mu$  muon

$\nu$  neutrino

new particle

Colliding protons accelerated to an incredible 99.999999% the speed of light with a powerful 13.6 TeV smash

Enlarge

ForwARD Search ExpeRiment

**FASER**

Muon neutrinos from proton collisions

Tungsten target (+ emulsion detector)

Dipole magnets

Calorimeter

Muons from outside are caught by the front detector and filtered out as background.

Interacting within the tungsten target

Muons: Produced from neutrino interactions, standing out as our distinct signals!

Silicon tracking detectors

Observing Muons through the Silicon Detector!

Evidence of Neutrino Detection!

First-ever observation of neutrinos from a collider like the LHC! Using the highest energy neutrinos ever created by humans, we're diving deep into the nature of neutrinos and might even test physics beyond the standard model (BSM).

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@Geneva, Switzerland

A  
Link