

The European Physical Society honors the  
High Altitude Research Station Jungfraujoch

# EPS Historic Site 2019

University of Bern  
Main building (Kuppelraum)  
Hochschulstrasse 4, 3012 Bern

February 7, 2019, 13.30 – 17.45h





„Sphinx“  
originally  
housed only a  
“Meteorological  
Observatory”



Jungfrauoch  
ca. 1939

# International Access to the Alpine Environment on Jungfraujoch has led to Multi-disciplinary Research in Meteorology, Physics, Chemistry, Physiology, Medicine ...

The year-round access to the Research Station  
by train, and its habitability are definite assets



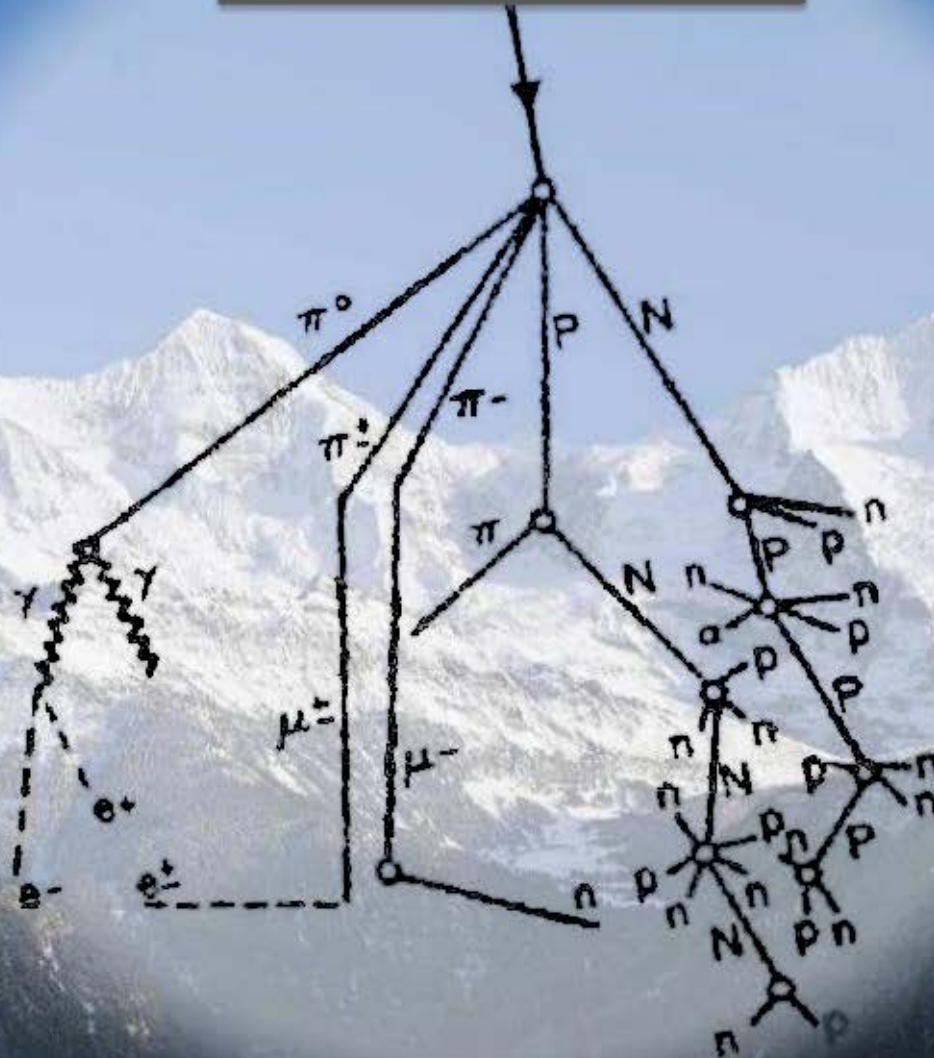


# Glaciology Crystallography



MF Perutz

Incident  
Cosmic-ray Particle



PMS Blackett



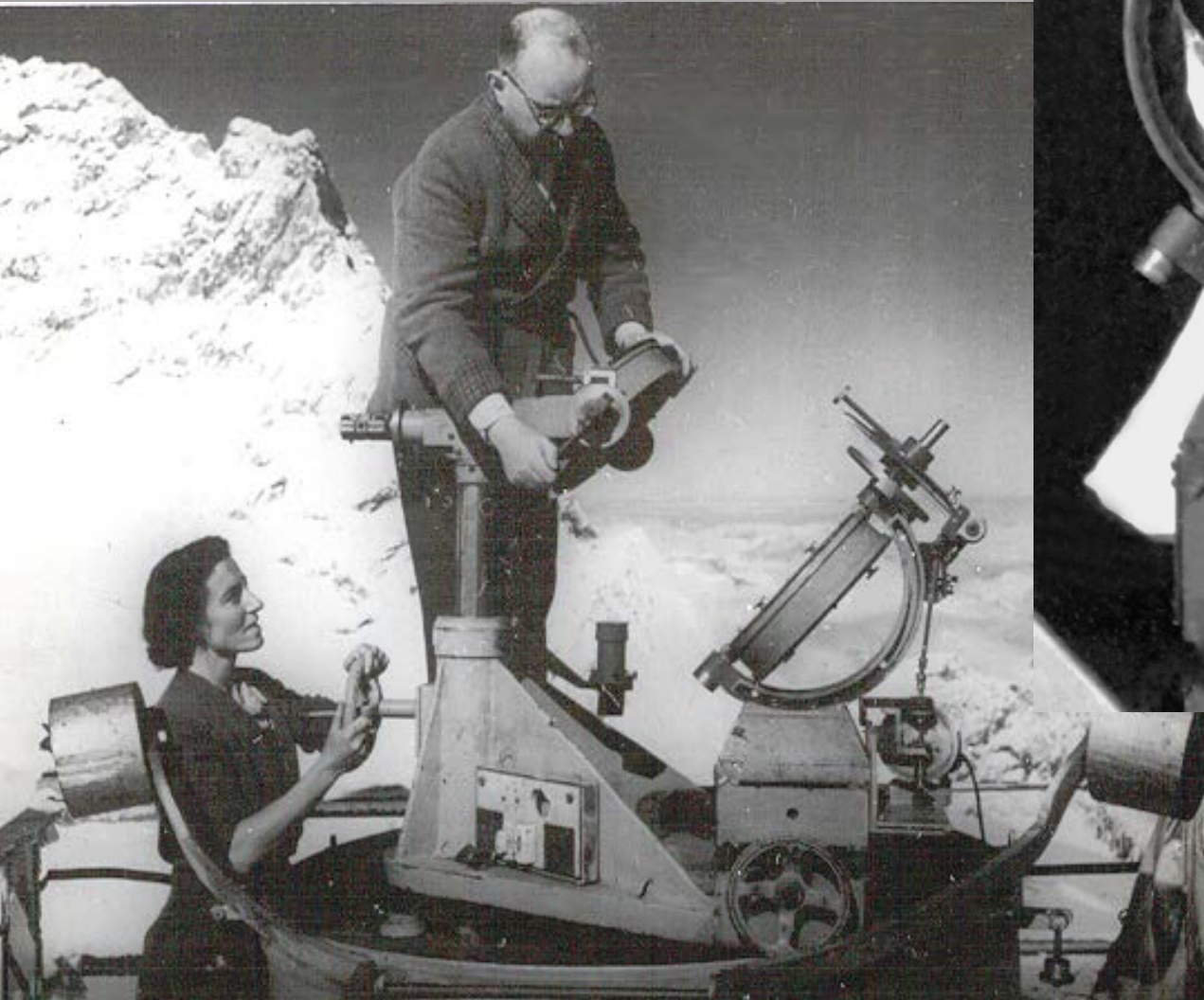
CF Powell



*In-situ* investigations  
of Cloud Formation  
(water and ice, role of aerosols)



# Measurements by the Liège Group ...



... started  
in 1950



“ It will be very interesting to systematically record telluric bands due to CH<sub>4</sub>, N<sub>2</sub>O and CO in view to study or detect intensity variations with time”.

Marcel Migeotte, 1951

In: “Zwanzig Jahre Hochalpine Forschungsstation Jungfrauojoch”

Editor : A. von Muralt

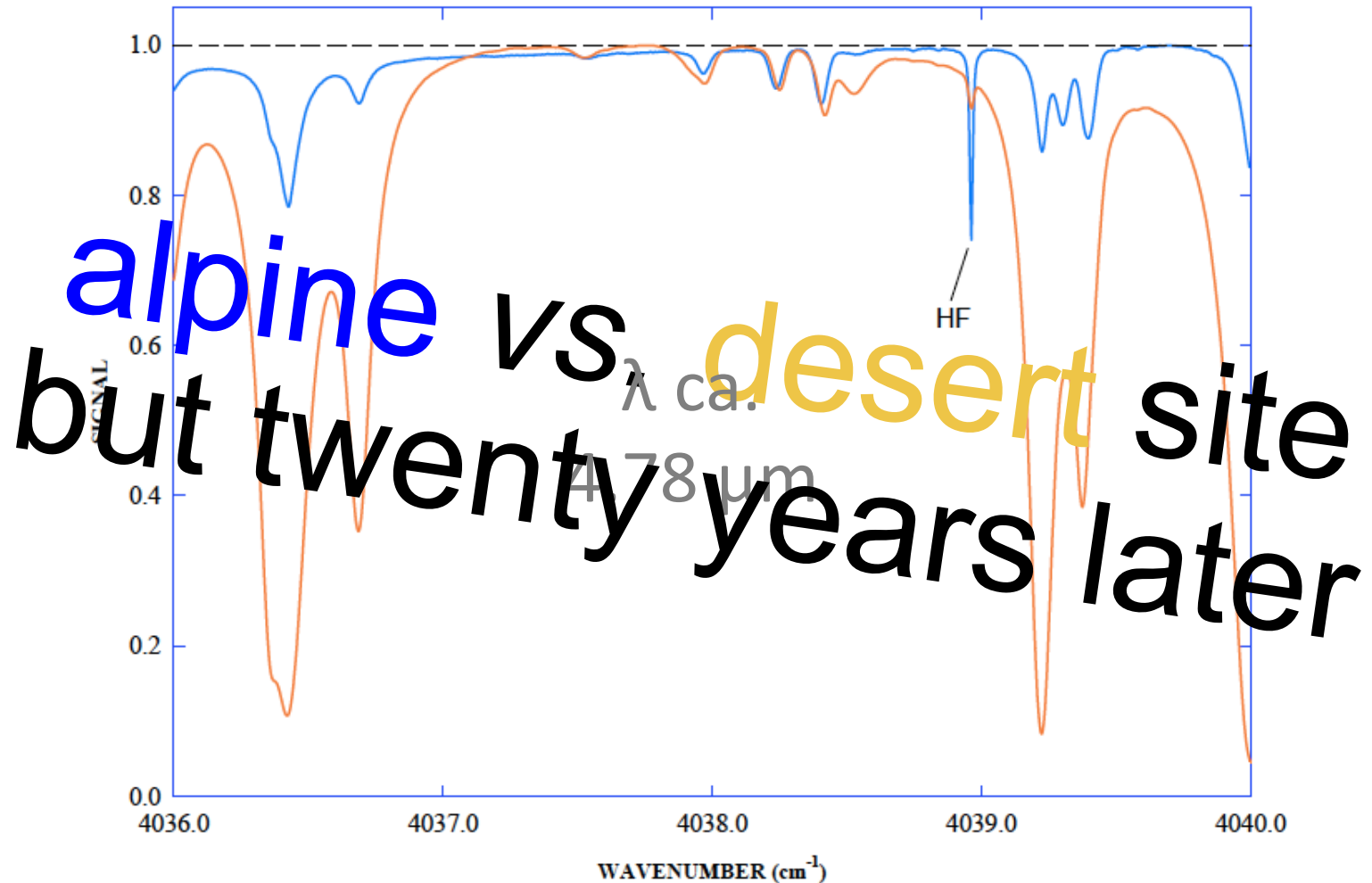
Verlag Stämpfli & Cie, Bern, 1951

... a Visionary!

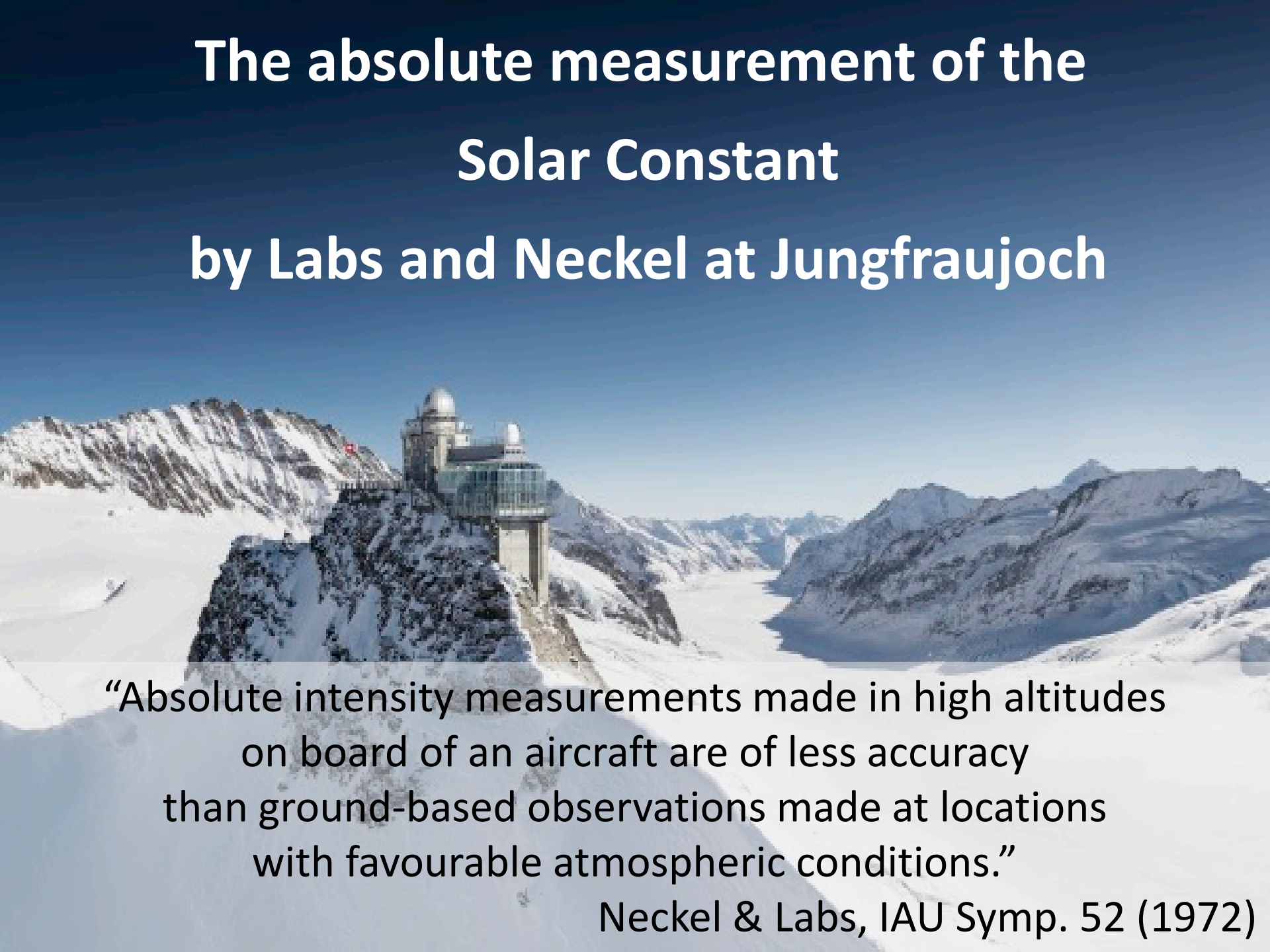
# Water in the terrestrial atmosphere:

blue Jungfrauoch, atm. water content = 0.7 mm Hg, April 2000

orange Kitt Peak AZ, atm. water content = 5.8 mm Hg, Oct. 1979



# The absolute measurement of the Solar Constant by Labs and Neckel at Jungfrauoch



“Absolute intensity measurements made in high altitudes on board of an aircraft are of less accuracy than ground-based observations made at locations with favourable atmospheric conditions.”

Neckel & Labs, IAU Symp. 52 (1972)



# EUROPEAN PHYSICAL SOCIETY – EPS HISTORIC SITE

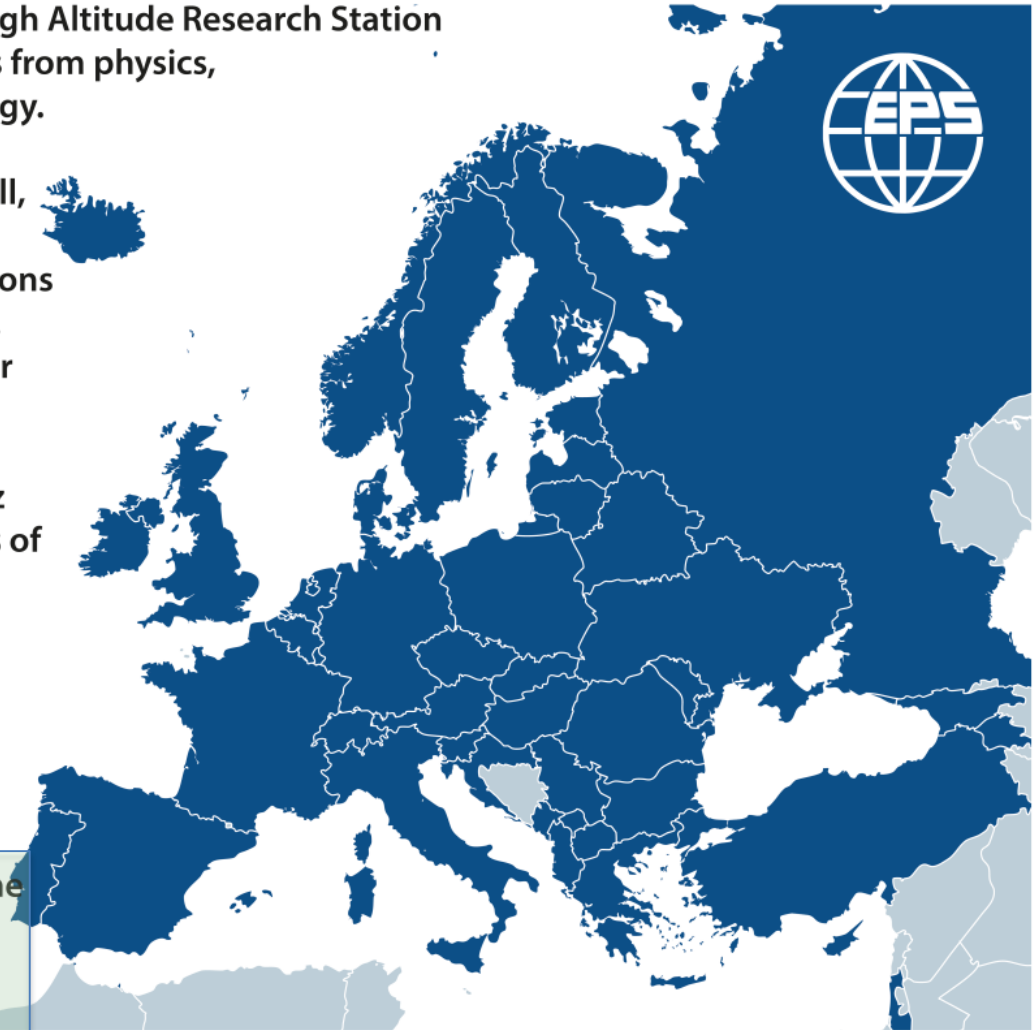
## The High Altitude Research Station Jungfrauoch

After its inauguration in 1931, the High Altitude Research Station Jungfrauoch has attracted scientists from physics, astronomy, climatology and glaciology.

Here Patrick Blackett and Cecil Powell, independently and using different techniques, gave relevant contributions to cosmic-ray based particle physics. Marcel Migeotte, measuring the solar infrared spectrum, discovered the presence of methane in the Earth's atmosphere. Dietrich Labs and Heinz Neckel made the first measurements of the solar constant.

These and many other significant scientific results obtained at Jungfrauoch have contributed to its international renown.

Today Jungfrauoch houses one of the best-equipped research stations worldwide for physics-based climate and environmental science.



... but today  
the Dome  
is a symbol of  
scientific activity  
on Jungfrauoch  
for millions of  
tourists



Night-sky Astronomy  
has been practised  
in the past ...



# Jungfraujoch today

3500 m ü.M.

Sphinx Observatory

1937 & 1996



Top of Europe  
Restaurant

Research Station

1931