



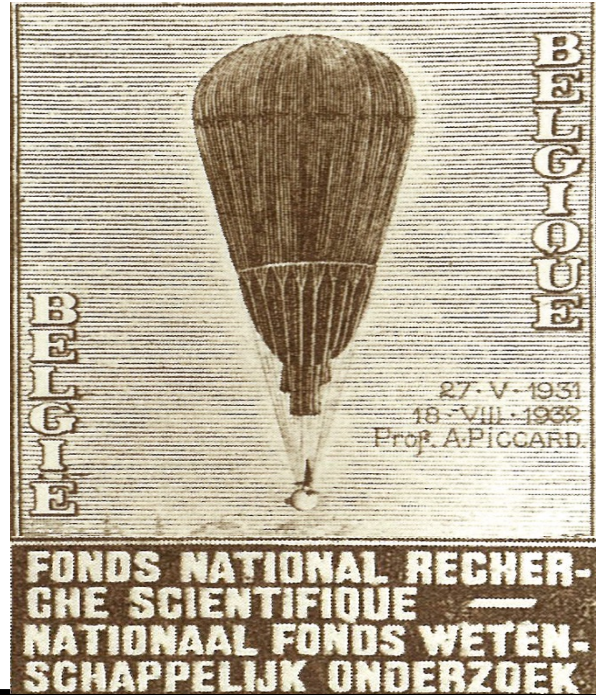
High-Energy Physics in Belgium

Fund for Scientific Research – FNRS

Véronique Halloin, Secretary General

March 9, 2023

BELGIUM & FNRS: *A PIONEERING ROLE IN HIGH-ENERGY PHYSICS*



1928

BELGIUM & FNRS: *A PIONEERING ROLE IN HIGH-ENERGY PHYSICS*



1928



ILSN

1947

BELGIUM & FNRS: A PIONEERING ROLE IN HIGH-ENERGY PHYSICS



1928



ILSN

1947



1954

BELGIUM & FNRS: A PIONEERING ROLE IN HIGH-ENERGY PHYSICS

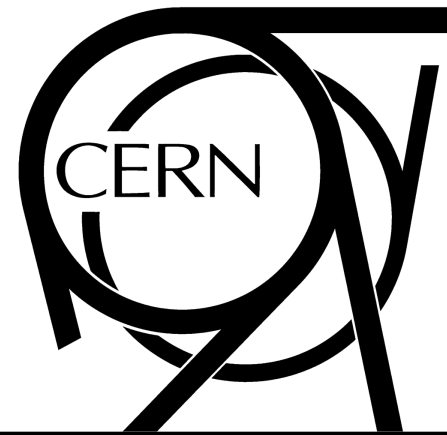


1928



ILSN

1947



1954

1939



BELGIUM & FNRS: A PIONEERING ROLE IN HIGH-ENERGY PHYSICS

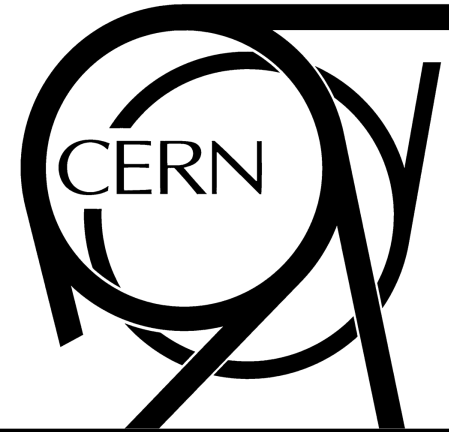


1928



ILSN

1947



1954

1939

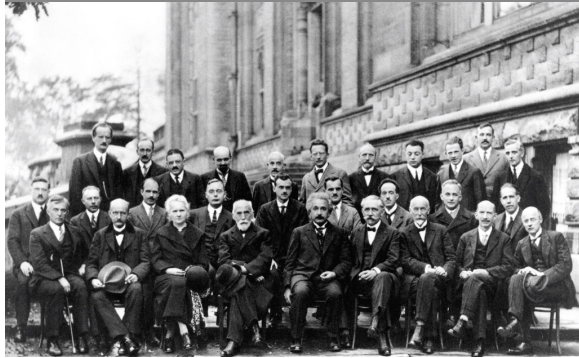


1952



BELGIUM & FNRS: A PIONEERING ROLE IN HIGH-ENERGY PHYSICS

International Solvay
Institutes
for Physics



1912

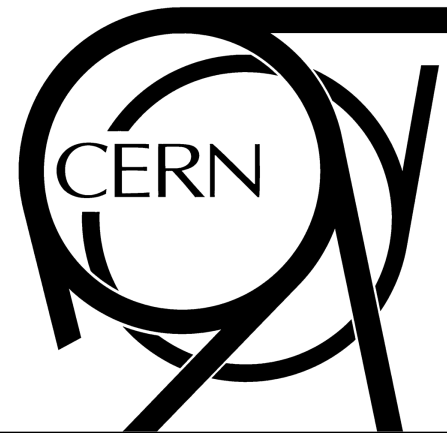


1928



ILSN

1947



1954

1939

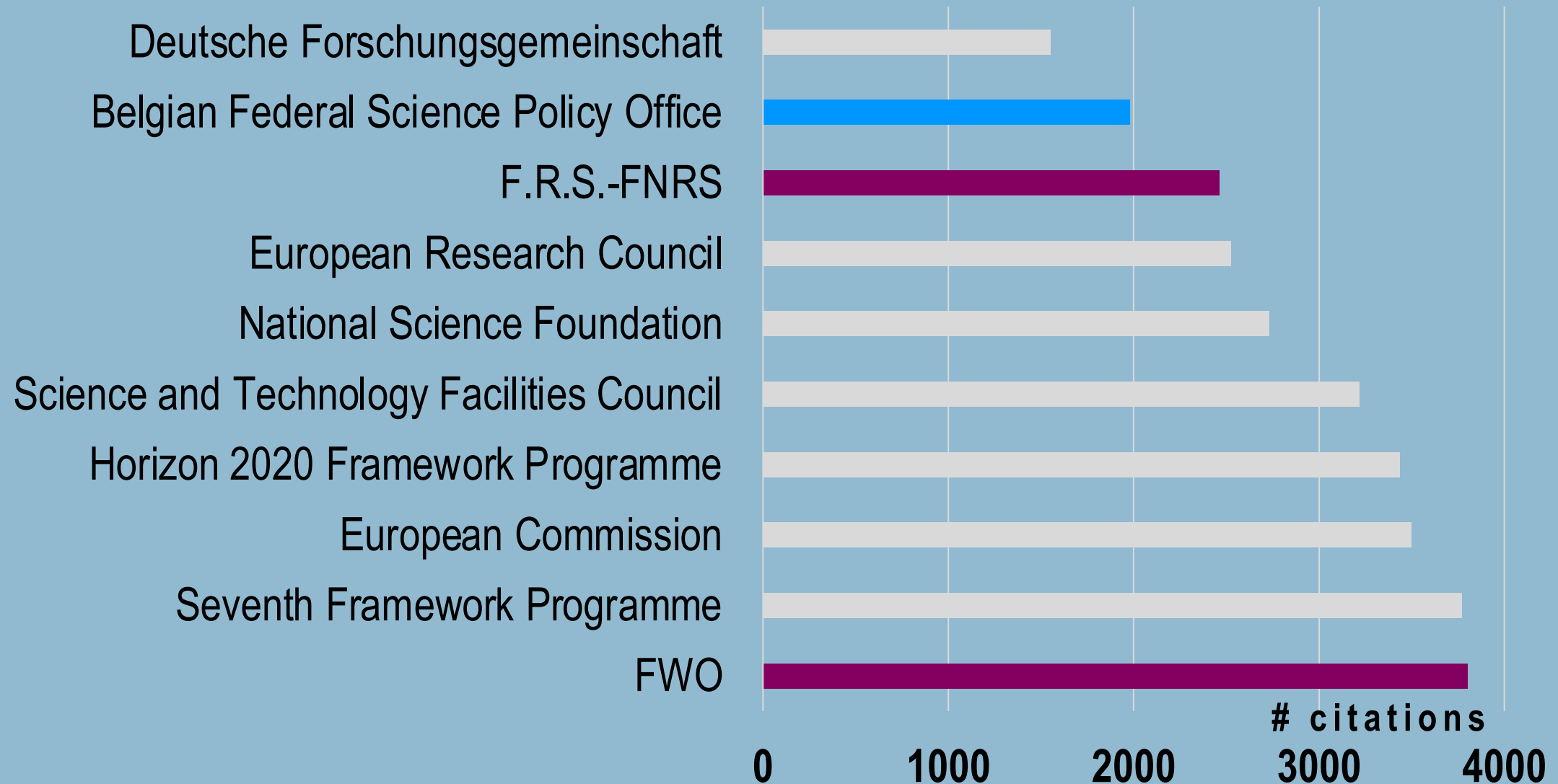


1952

FNRS

BELGIAN RESEARCH IN PHYSICS /ASTRONOMY: SOURCES OF FUNDING

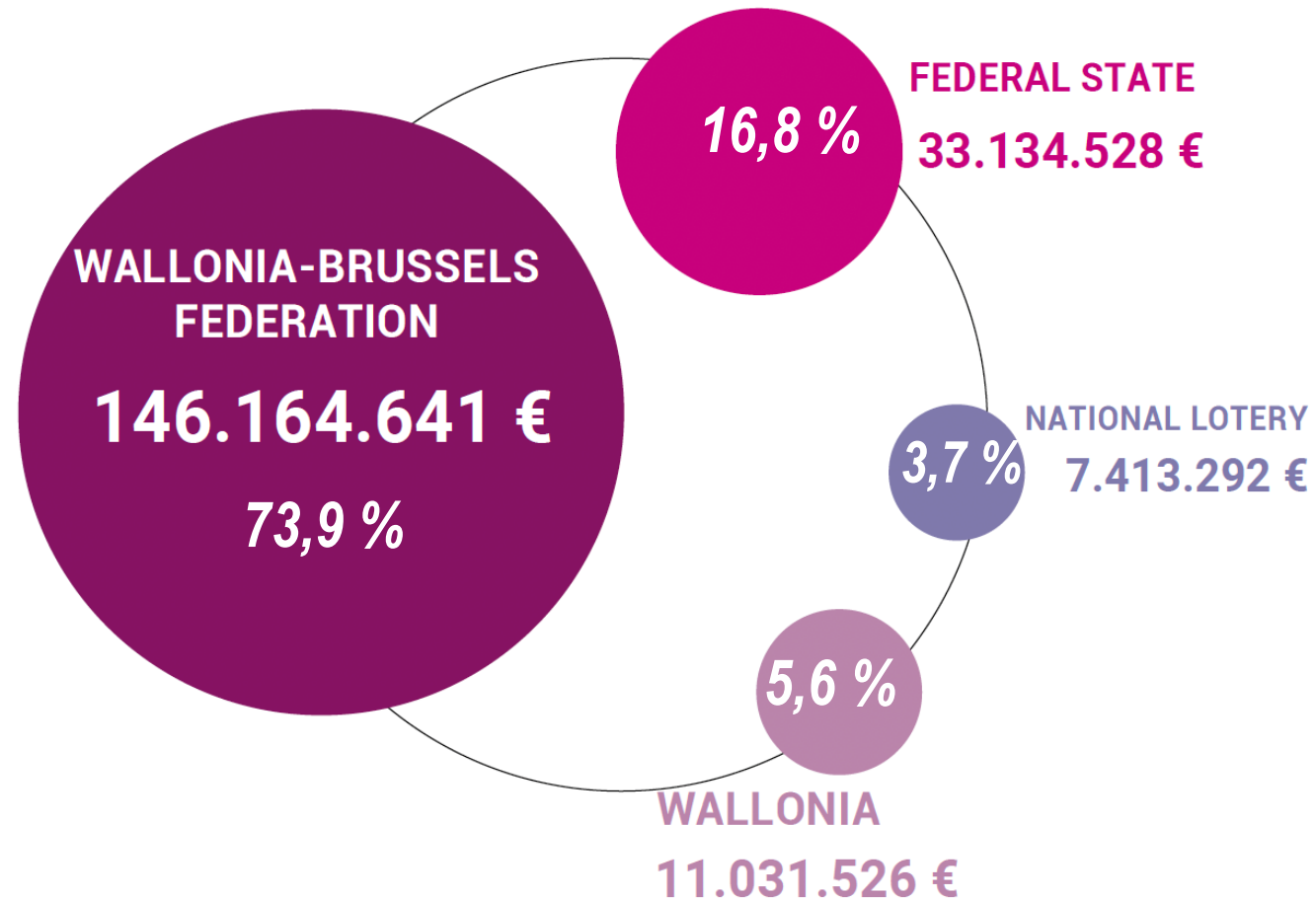
Most frequently acknowledged sources of funding in Belgian publications
in physics / astronomy (2011-2021 / *Scopus*)



FNRS FUNDING SOURCES (2021)

197.743.986 €

GLOBAL RESOURCES



FNRS FUNDING INSTRUMENTS FOR HEP

1. IISN.fnrs (Interuniversity Institute for Nuclear Sciences)



2. PhD grants and Fellowships **fnrs**

3. EOS  **EOS**
THE EXCELLENCE
OF SCIENCE

FNRS SUPPORT TO HEP RESEARCH

1. IISN.fnrs



- **Virtual institute :**
 - 5 to 7 M€/year (WBF and Federal Funding)
 - A dedicated international scientific committee
 - Long-term funding of recurrent and renewable projects, in particle physics, astro-particle physics and fundamental theoretical research

FNRS SUPPORT TO HEP RESEARCH

1. IISN.fnrs

■ Examples of contributions & projects funded:

- CERN (LHC/CMS - BEH Boson & others + *SCOAP initiative*)



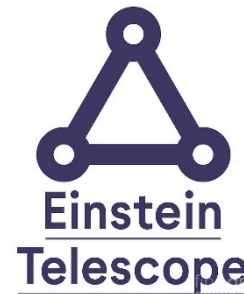
- IceCube, JUNO (Neutrino Physics)



ICECUBE
NEUTRINO OBSERVATORY



- Einstein Telescope, VIRGO (Gravitational Waves)



FNRS SUPPORT TO HEP RESEARCH

2. PhD Grants and Fellowships – FNRS

(Inter-university competition in all scientific fields)

154 Grants and Fellowships 2013-2023 <i>IISN promoters or co-promoters</i>	#
Research Fellows (ASP)	32
FRIA doctoral grants (FRIA)	53
Postdoctoral Researchers (CR)	50
Scientific collaborators	5
Permanent Researchers (CQ, MR, DR)	14

FNRS SUPPORT TO HEP RESEARCH

3. EOS – Excellence of Science

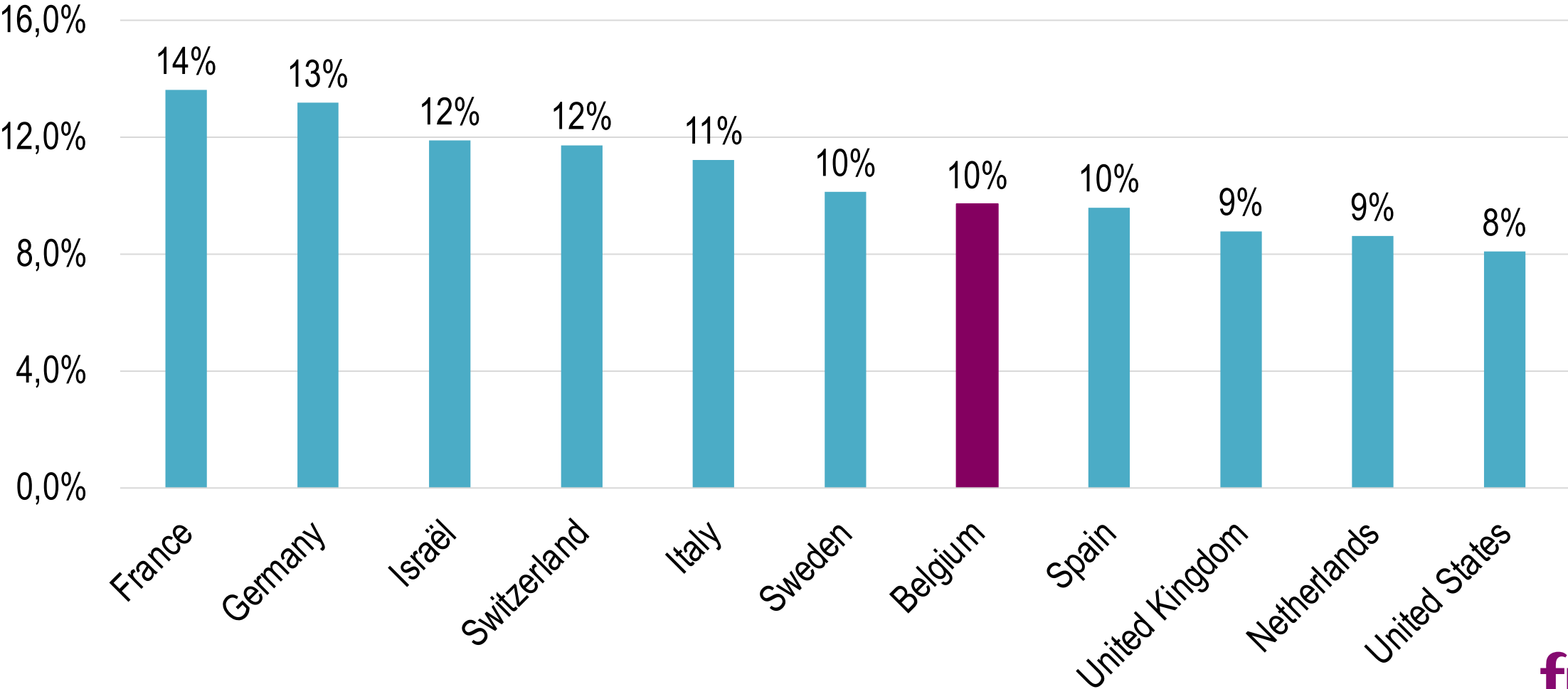


- Follows former BELSPO Interuniversity Attraction Poles Program
- A **120 million €** budget (4 years)
- Jointly managed by FNRS and FWO since 2017, to **foster joint research between the two Communities** (all fields of science)
- Highly competitive calls (every 4 years): ~280 applications/call, success rates ~13 %
- 15 IISN (co-)promoters have benefitted from EOS funding over the 2 funding periods

Example: « *The H boson gateway to physics beyond the Standard Model* »
(Fabio Maltoni et al. , 2018 – 2021) : 3,7 M€

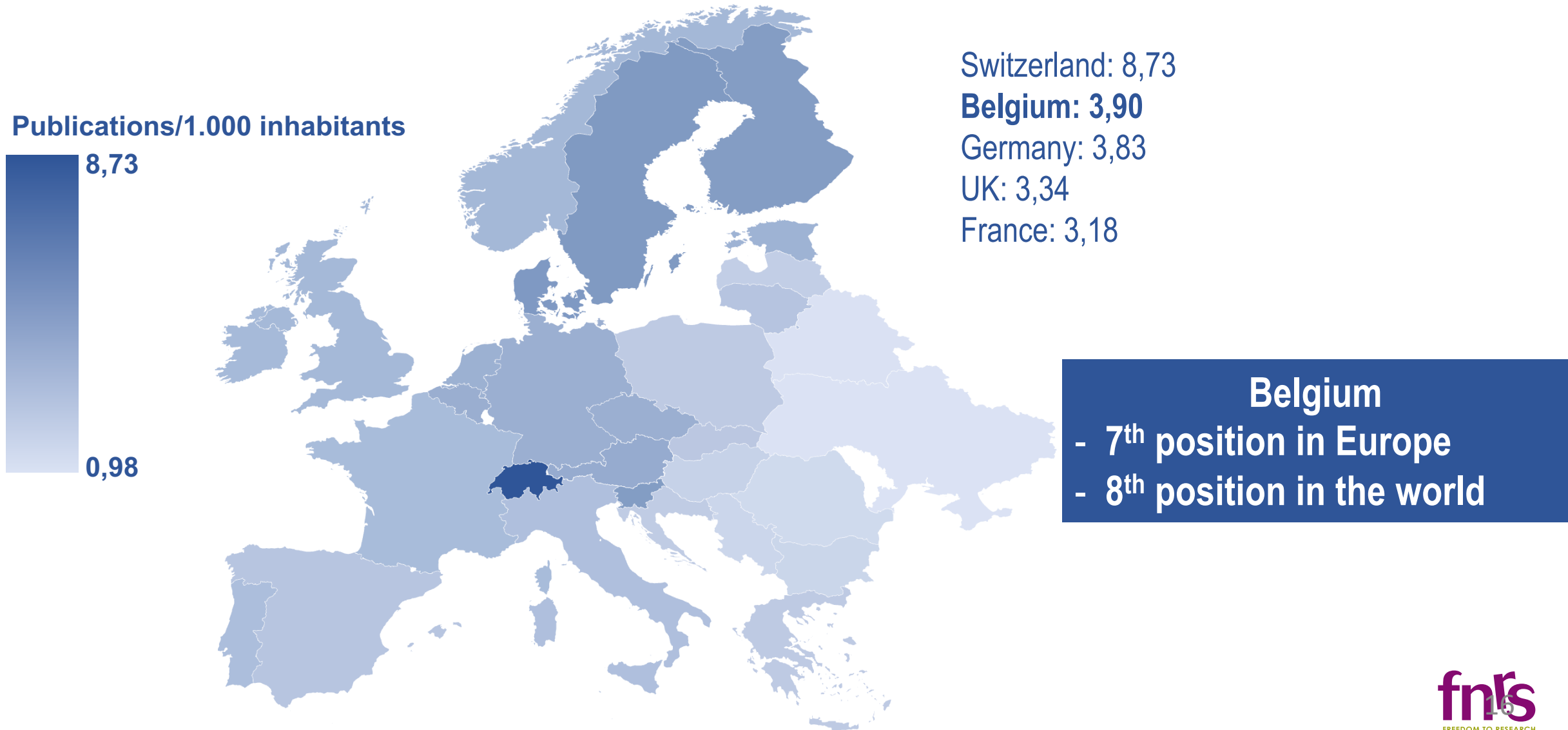
BELGIUM IS A KEY PLAYER IN RESEARCH IN PHYSICS (1)

Part of physics / astronomy amongst 2021 publications (scopus)



BELGIUM IS A KEY PLAYER IN RESEARCH IN PHYSICS (2)

Publications in physics / astronomy from 2011 to 2021 (scopus), per 1000 inhabitants





ChatGPT

“Belgium has been a significant contributor to high energy physics research over the last decade, both through its membership in major international collaborations and through its own domestic research efforts...”

Belgian researchers have played an important role in advancing our understanding of the fundamental building blocks of the universe and their interactions through their contributions to the LHC experiments and other high energy physics research”