

Research collaboration between Poland and Ukraine

CURRENT STATE AND KEY TRENDS

March 2017



Introduction

This document has been designed to show some findings concerning the importance of national and institutional scientific collaboration between Poland and Ukraine. Research output has been measured upon Web of Science data and analyzed in InCites Benchmark & Analytics database.

Considered time frame had been including both full time period available in Incites which is 1980-2017 and the last 10 years period between 2006-2016

This report aim to show the main trends in the collaboration of these two countries, strongest fields and the Institutional involvement in the process. It is indicating some new rising fronts. Also illustrate the funding sources structure which is important for research development.

For quantitative and volume of research output analysis metric used is number of Web of Science documents which includes all documents types such as: articles, reviews, conference proceeding books etc. from evaluated and proved quality sources indexed in Web of Science Core Collection.

For moire qualtitative analysis of research impact it has been used normalized metric - the Category Normalized Citation Impact (CNCI) which is is calculated by dividing the actual count of citing items by the expected citation rate for documents with the same document type, year of publication and subject area. CNCI is a valuable and unbiased indicator of impact irrespective of age, subject focus of document type. An CNCI value of 1 represents performance at par with world average, values above 1 are considered above average and values below 1 are considered below average.

Poland – Characteristic of country research output

Name	Rank	▼ Web of Science Documents	% Docs Cited	% International Collaborations	Citation Impact
POLAND	19	559,290	67.64%	30.04%	9.4



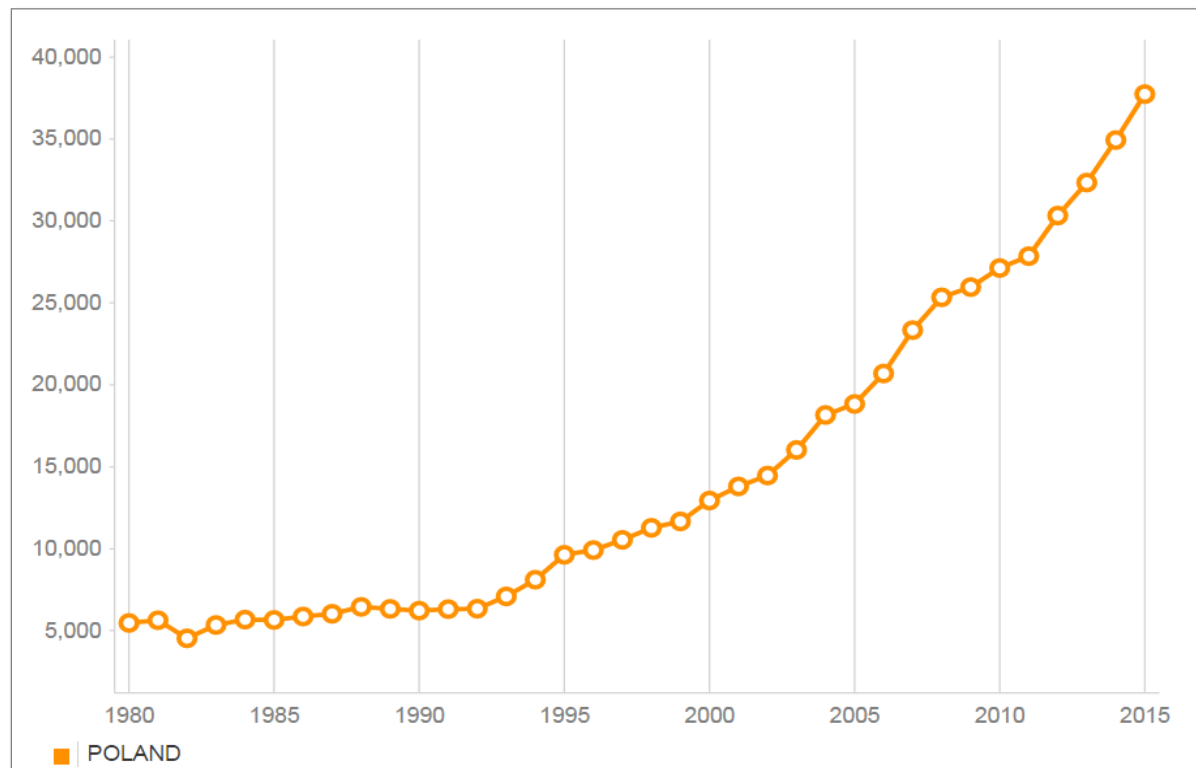
Poland currently ranks **#19** in terms of volumes of scientific documents published in the top scholar journals indexed in Web of Science for all 222 countries in the World

Since 1980 Polish researchers have published about **560,000** research papers.

Over **67%** of those documents have been cited at least one time.

More than 30% of them have been published with a cooperation of at least one author from abroad.

Average impact of those researchers is **9.4** citations per document



Source: InCites

Ukraine – Characteristic of country research output

Name	Rank	▼ Web of Science Documents	% Docs Cited	% International Collaborations	Citation Impact
UKRAINE	46	137,577	56.14%	35.54%	5.96



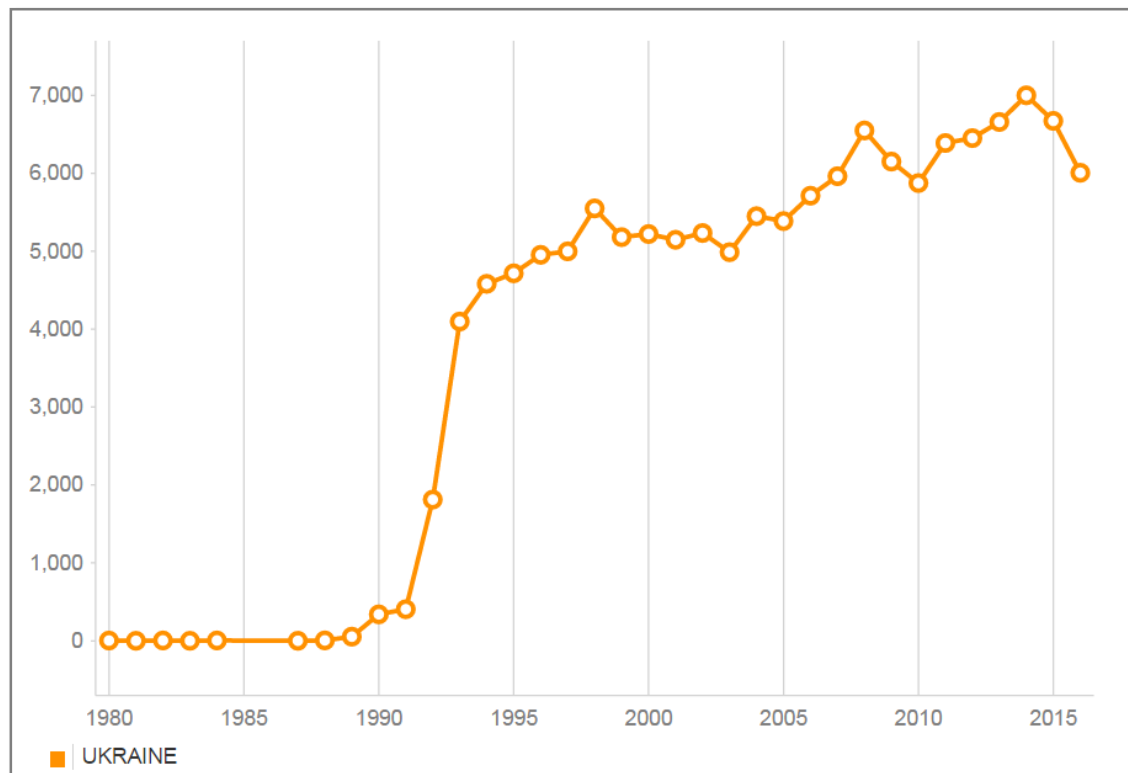
Ukraine currently ranks **#46** in terms of volumes of scientific documents published in the top scholar journals indexed in Web of Science for all 222 countries in the World

Since 1980 Ukrainian researchers have published more than **137,000** research papers.

Over **56%** of those documents have been cited at least one time.

35% have been published with a cooperation of at least one author from abroad.

Average impact of those researchers is **5.96** citations per document

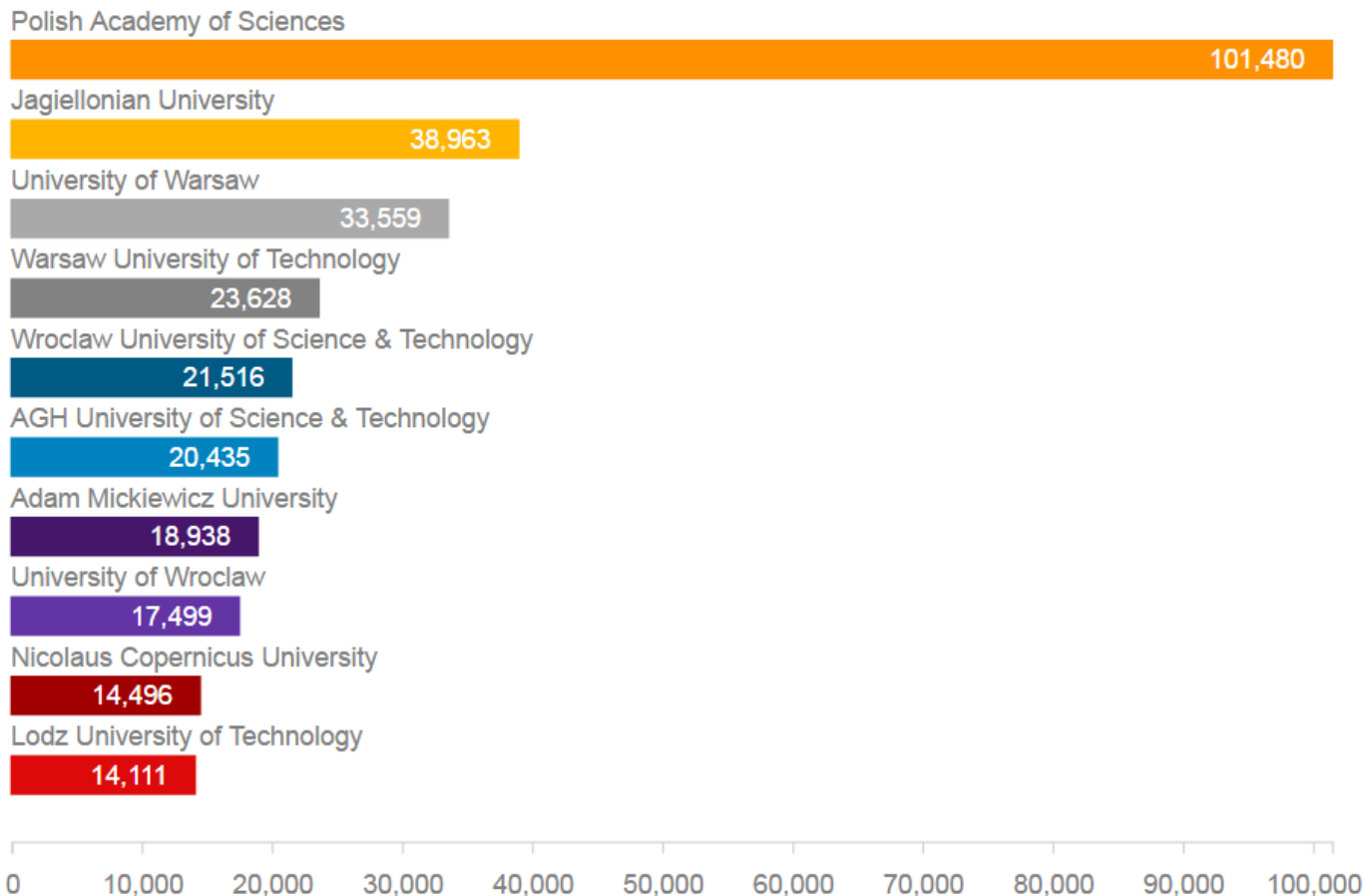


Source: InCites

Poland – Characteristic of country research output

Results: 121

Web of Science Documents



In Poland there are more than **120** Universities and research institutes together with Polish Academy of Science.

9 of them are ranked in Times Higher Education ranking

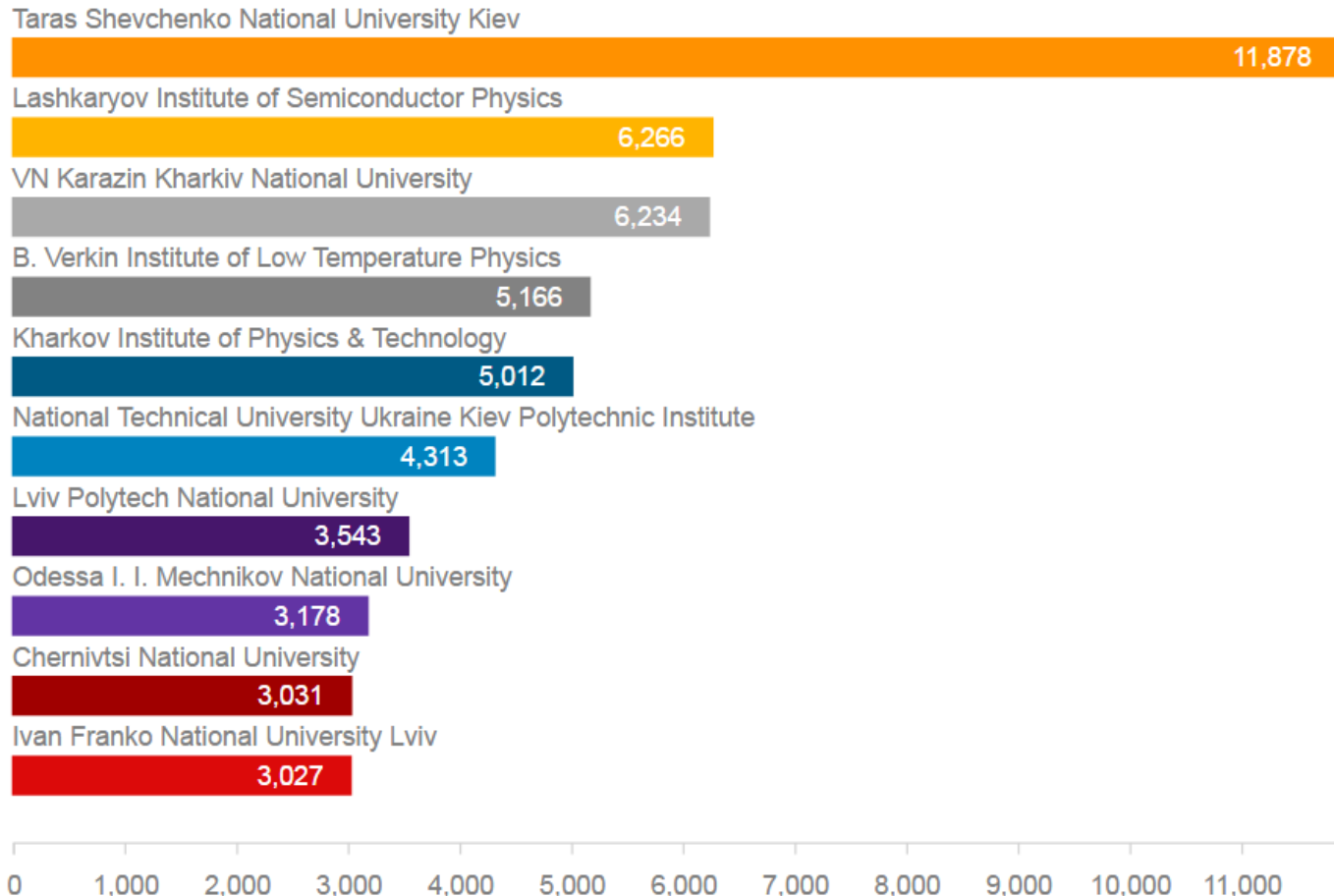
13 in CWTS Leiden Ranking

Source: InCites

Ukraine – Characteristic of country research output

Results: 40

Web of Science Documents



Source: InCites

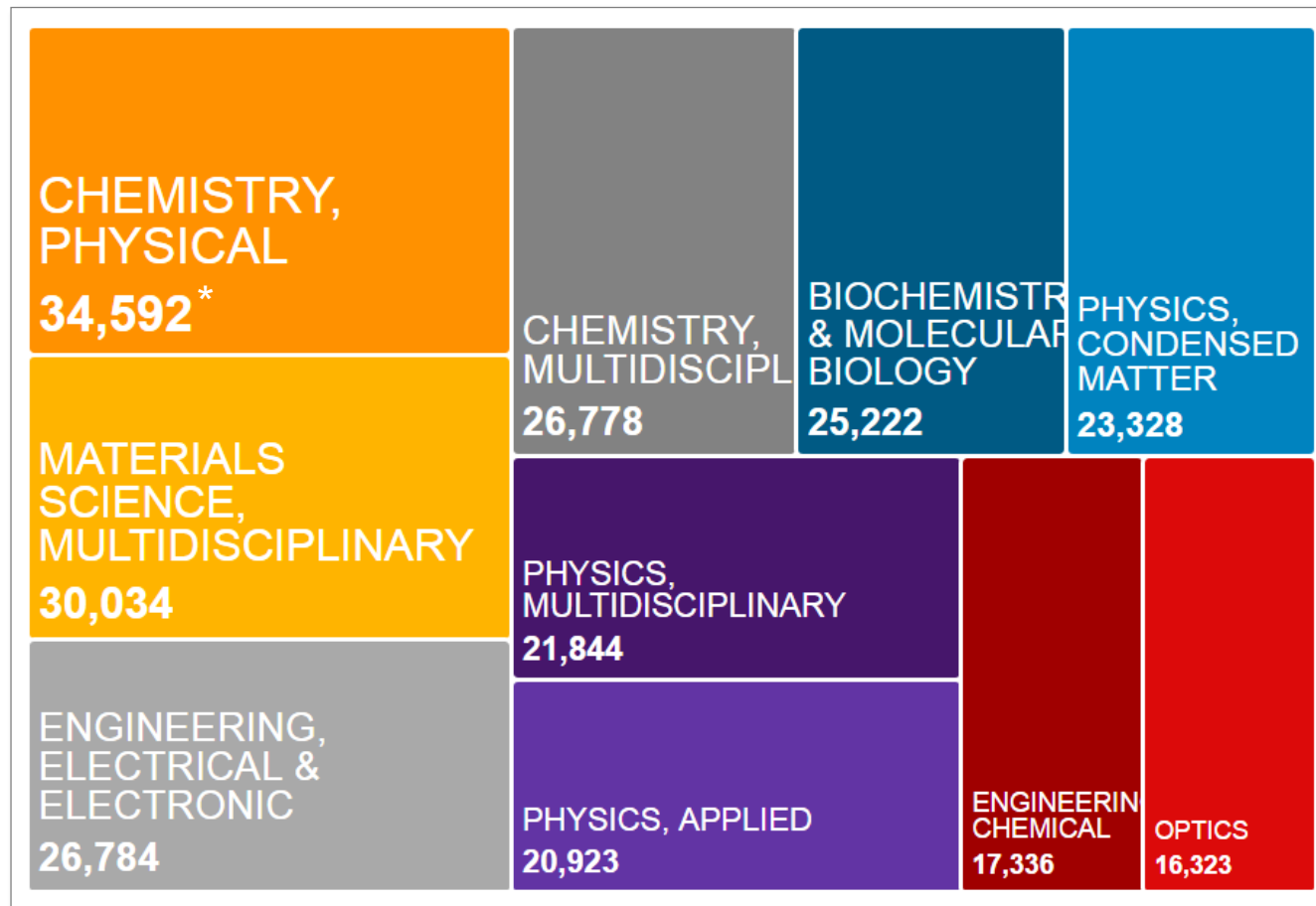
In Ukraine there are minimum **40** Universities and research Institutes together with National Academy of Science that aggregates only itself **61%** of country research output

Ukraine has **4** institutions listed on THE Times Higher Education ranking

No participation in CWTS Leiden ranking so far.

Poland – Characteristic of country research output

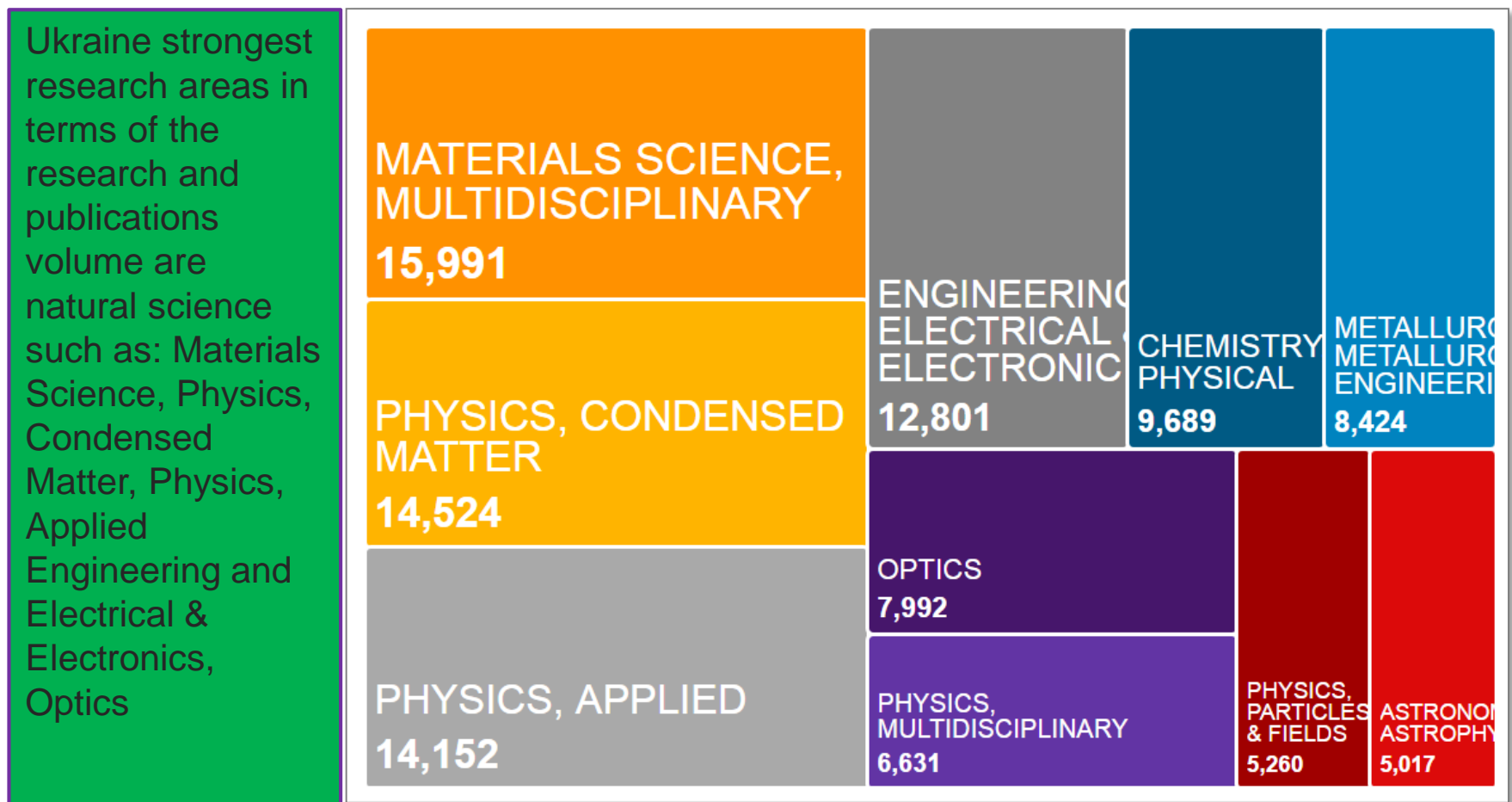
Poland strongest research areas in terms of the research and publications volume are natural science disciplines such as: Chemistry Physical, Materials Science, Engineering and Electrical & Electronics



Source: InCites

*Number of **Web of Science Documents** includes all documents types such as: articles, reviews, conference proceeding books etc. from evaluated and proved quality sources indexed in Web of Science Core Collection

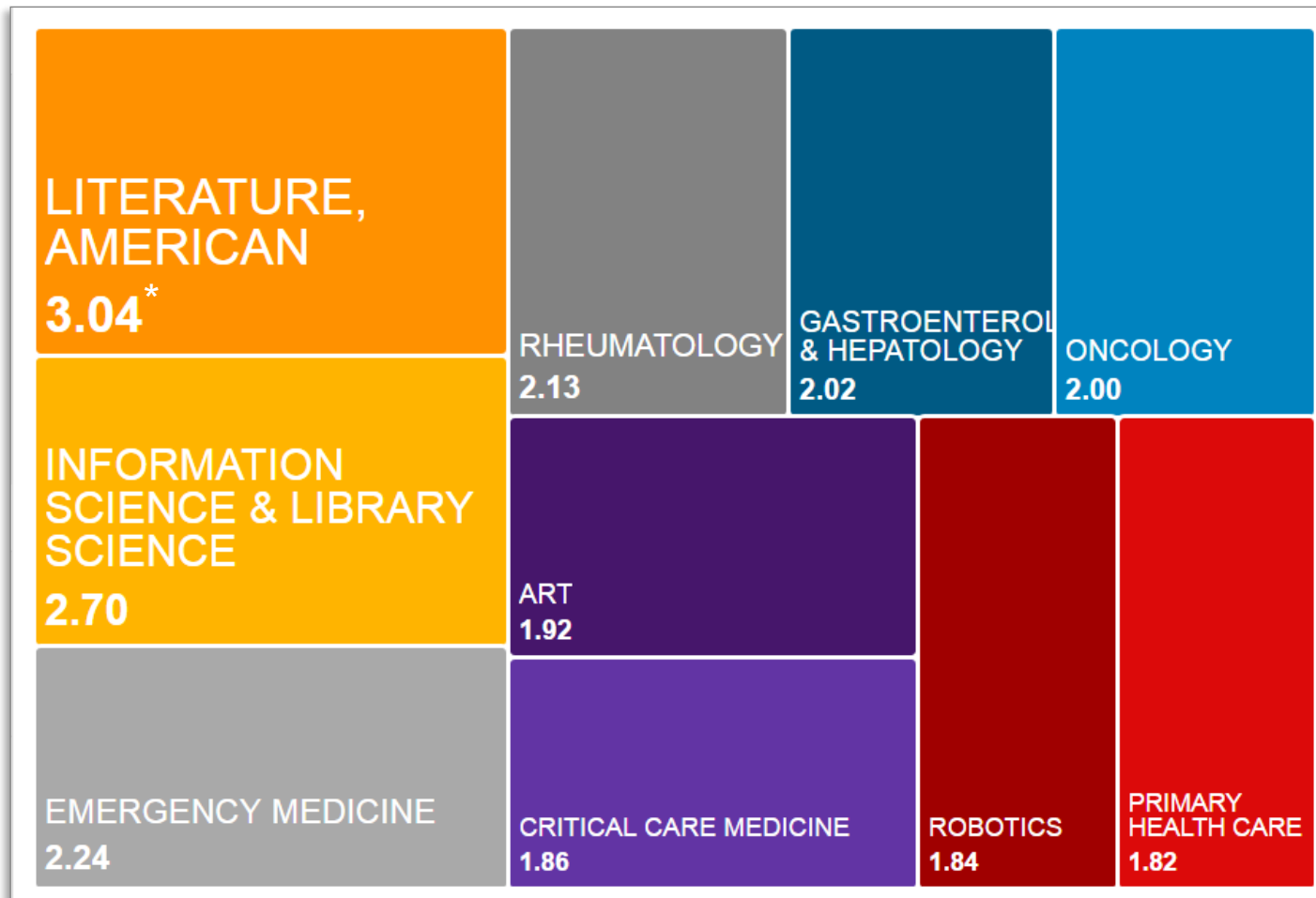
Ukraine – Characteristic of country research output



Source: InCites

*Number of **Web of Science Documents** includes all documents types such as: articles, reviews, conference proceeding books etc. from evaluated and proved quality sources indexed in Web of Science Core Collection

Poland – Characteristic of country research output

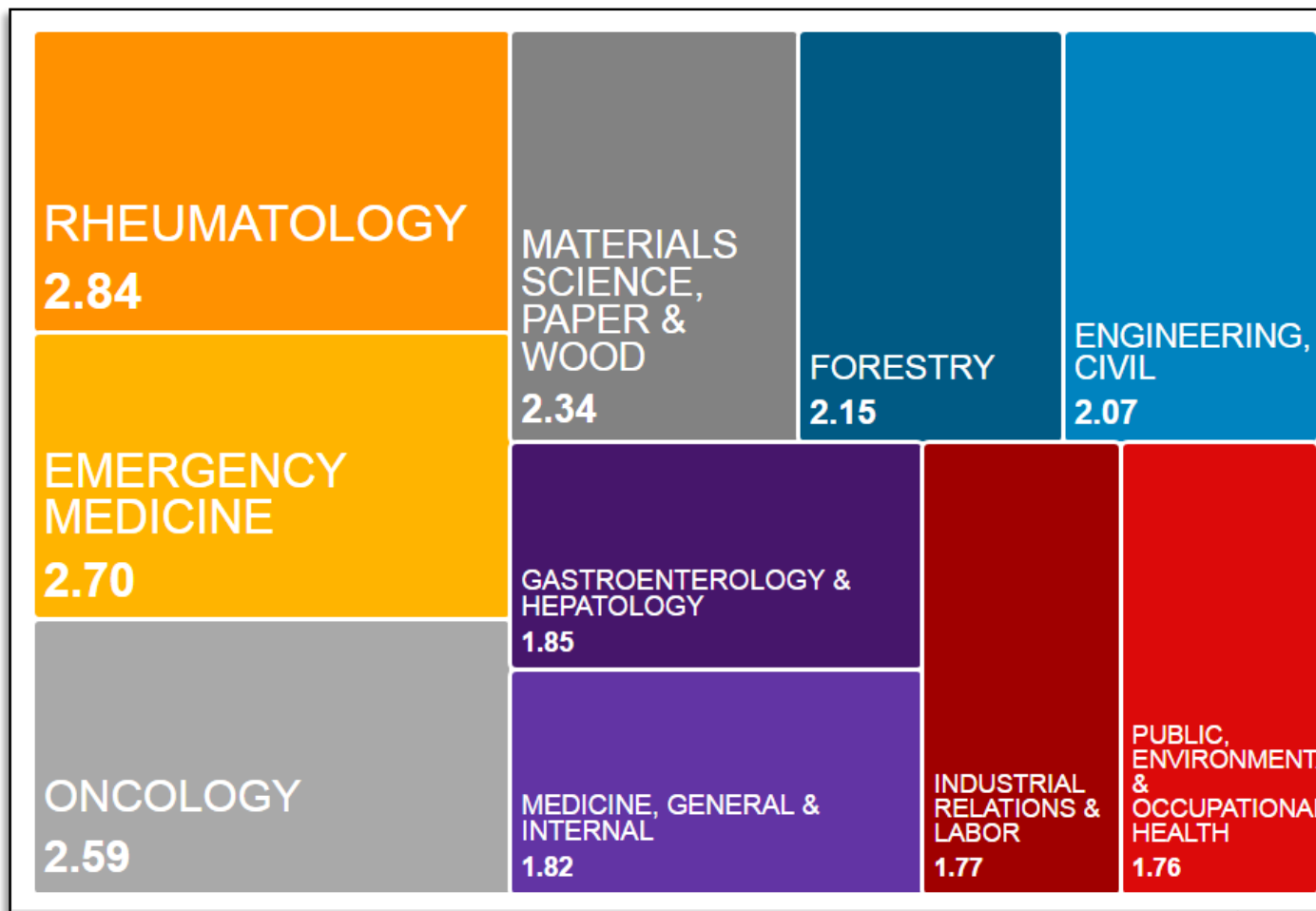


Poland's the best performing domains where research is outperforming the average global normalized impact are also Social sciences areas such as Literature American, Information Science, Art and different fields of Medicines or Robotics.

Source: InCites

*The **Category Normalized Citation Impact (CNCI)** value of 1 represents performance at par with world average, values above 1 are considered above average and values below 1 are considered below average.

Ukraine – Characteristic of country research output



Ukraine's the best performing domains where research is outperforming the average global normalized impact are mostly medical domains such as: Rheumatology, Emergency Medicine, Oncology together with Material Science, Paper and Wood and Forestry.

*The **Category Normalized Citation Impact (CNCI)** value of 1 represents performance at par with world average, values above 1 are considered above average and values below 1 are considered below average.

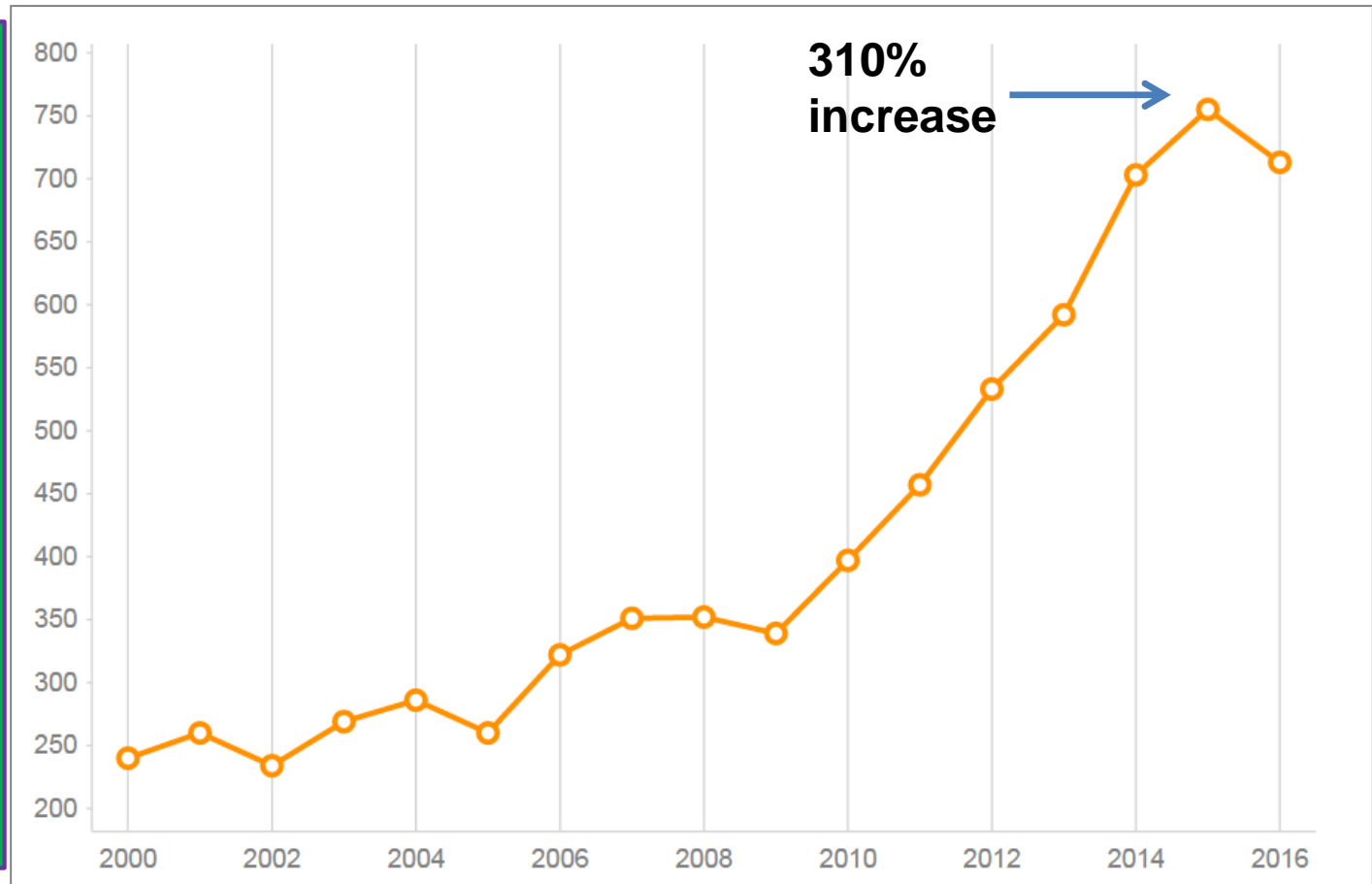
Source: InCites

Poland and Ukraine scientific collaboration analysis



Poland and Ukraine scientific collaboration analysis

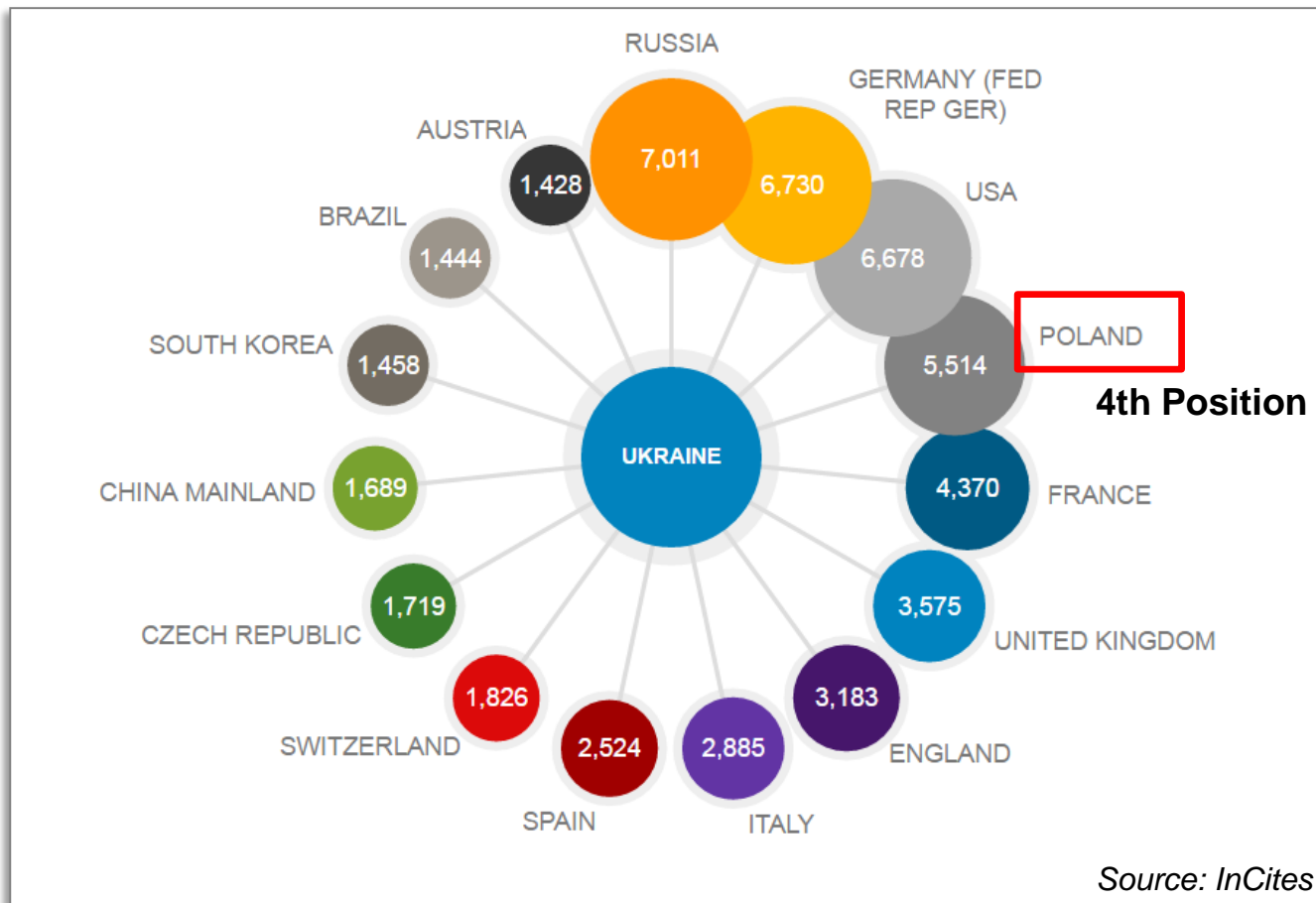
The scale of scientific cooperation between Poland and Ukraine is changing constantly since early 1990 when it was fully established. Nowadays we observe over 300% volume increase of the research and scholar publications published together.



Source: InCites

Name	Rank	▼ Web of Science Documents	% Docs Cited	Citation Impact	Category Normalized Citation Impact
▶ POLAND	4	7,063	76.47%	13.63	1.47

Poland and Ukraine scientific collaboration analysis

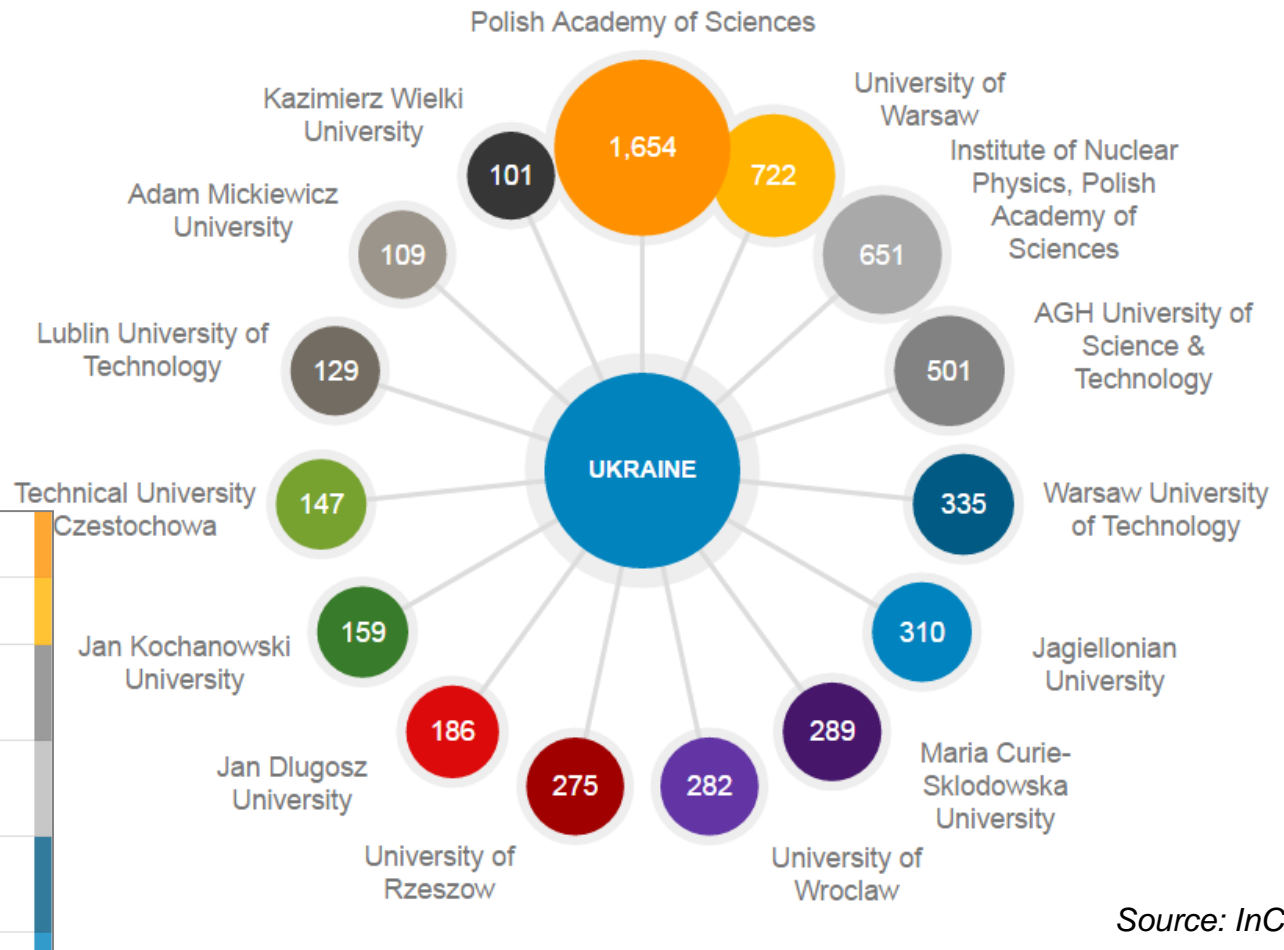


For Ukraine scientific collaboration with Poland is the one of the most important directions. Poland is on the 4th position when considering last ten years and on the 3rd for last year. This also has been proven as effective thanks to the high rate of 73 % Doc Cited and Category Normalized Citation Impact 1.73!

Name	Rank	▼ Web of Science Documents	% Docs Cited	Citation Impact	Category Normalized Citation Impact
POLAND	4	5,514	73.43%	14	1.73

Poland and Ukraine scientific collaboration analysis

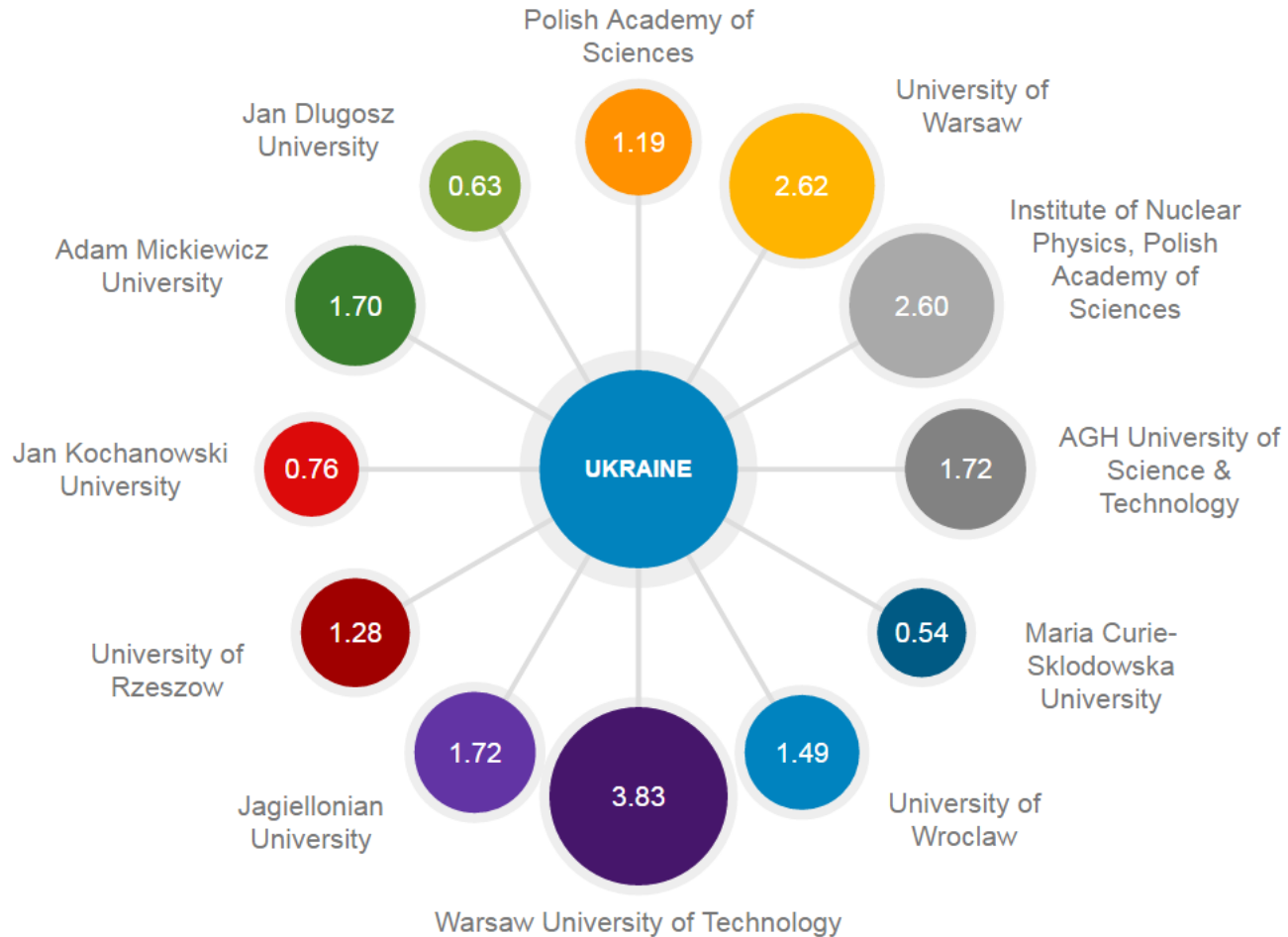
In the cooperation between Poland and Ukraine we have **81** Polish Institutions involved included all top Universities.



Polish Academy of Sciences	1
University of Warsaw	2
Institute of Nuclear Physics, Polish Academy of Sciences	3
AGH University of Science & Technology	4
Maria Curie-Skłodowska University	5
University of Wrocław	6
Warsaw University of Technology	7
Jagiellonian University	8

Results: 81 Institutions involved

Top Polish research collaborators with Ukraine – efficiency (CNCI)

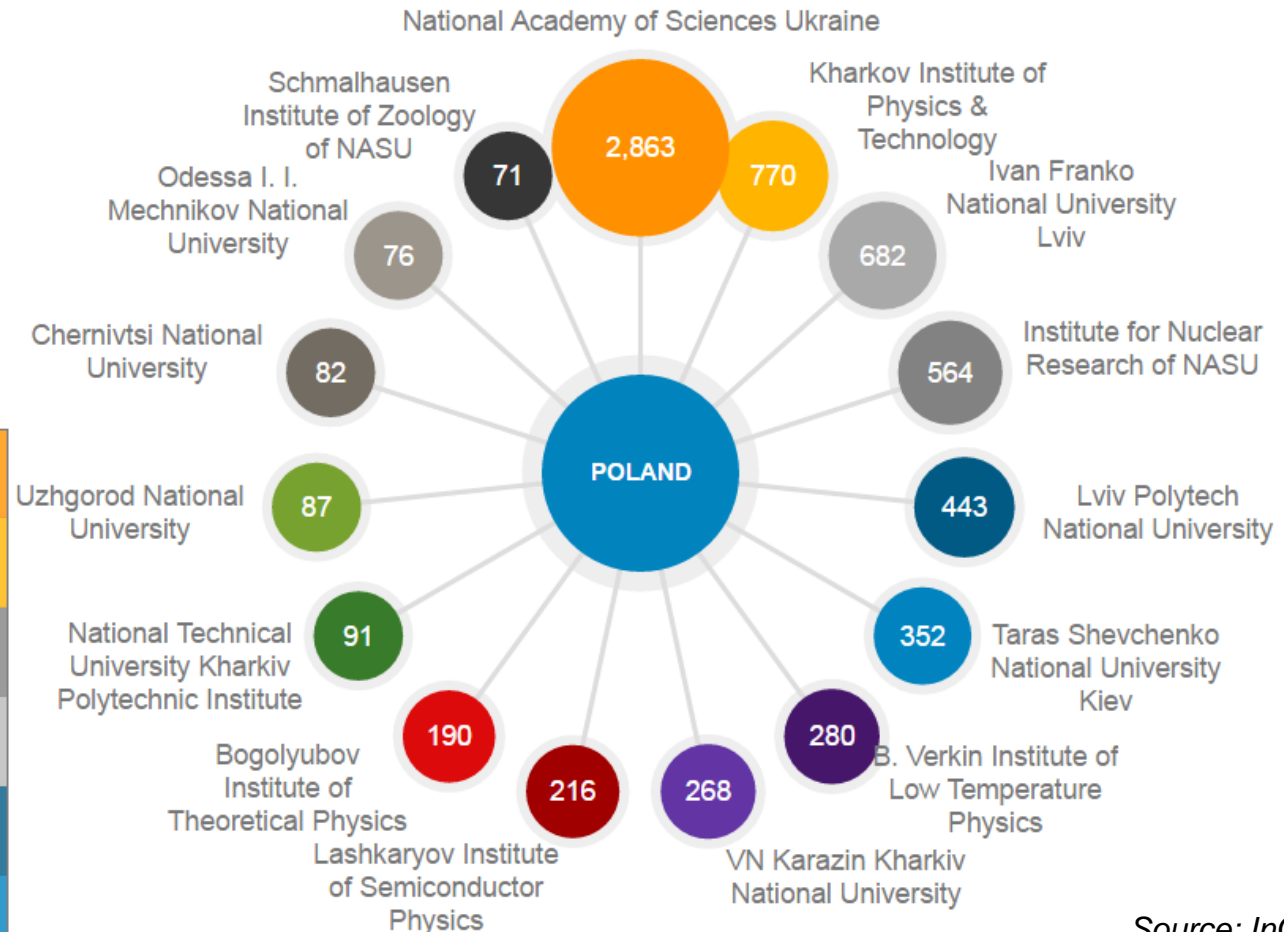


Source: InCites

Poland and Ukraine scientific collaboration analysis

In the cooperation between Poland and Ukraine we have **34** Ukrainian Institutions involved

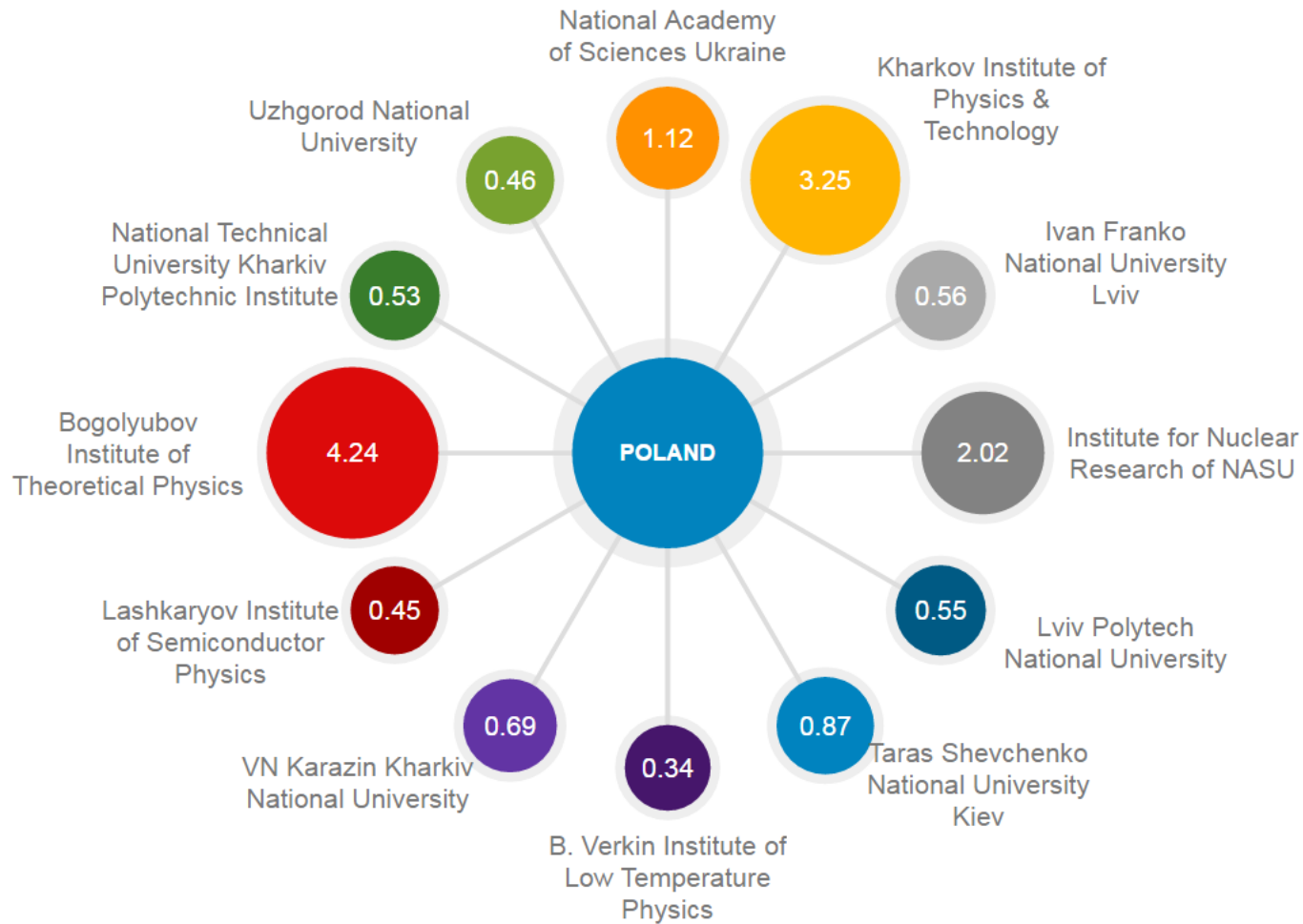
National Academy of Sciences Ukraine	1
Kharkov Institute of Physics & Technology	2
Ivan Franko National University Lviv	3
Institute for Nuclear Research of NASU	4
Lviv Polytech National University	5
Taras Shevchenko National University Kiev	6
VN Karazin Kharkiv National University	7
B. Verkin Institute of Low Temperature Physics	8



Source: InCites

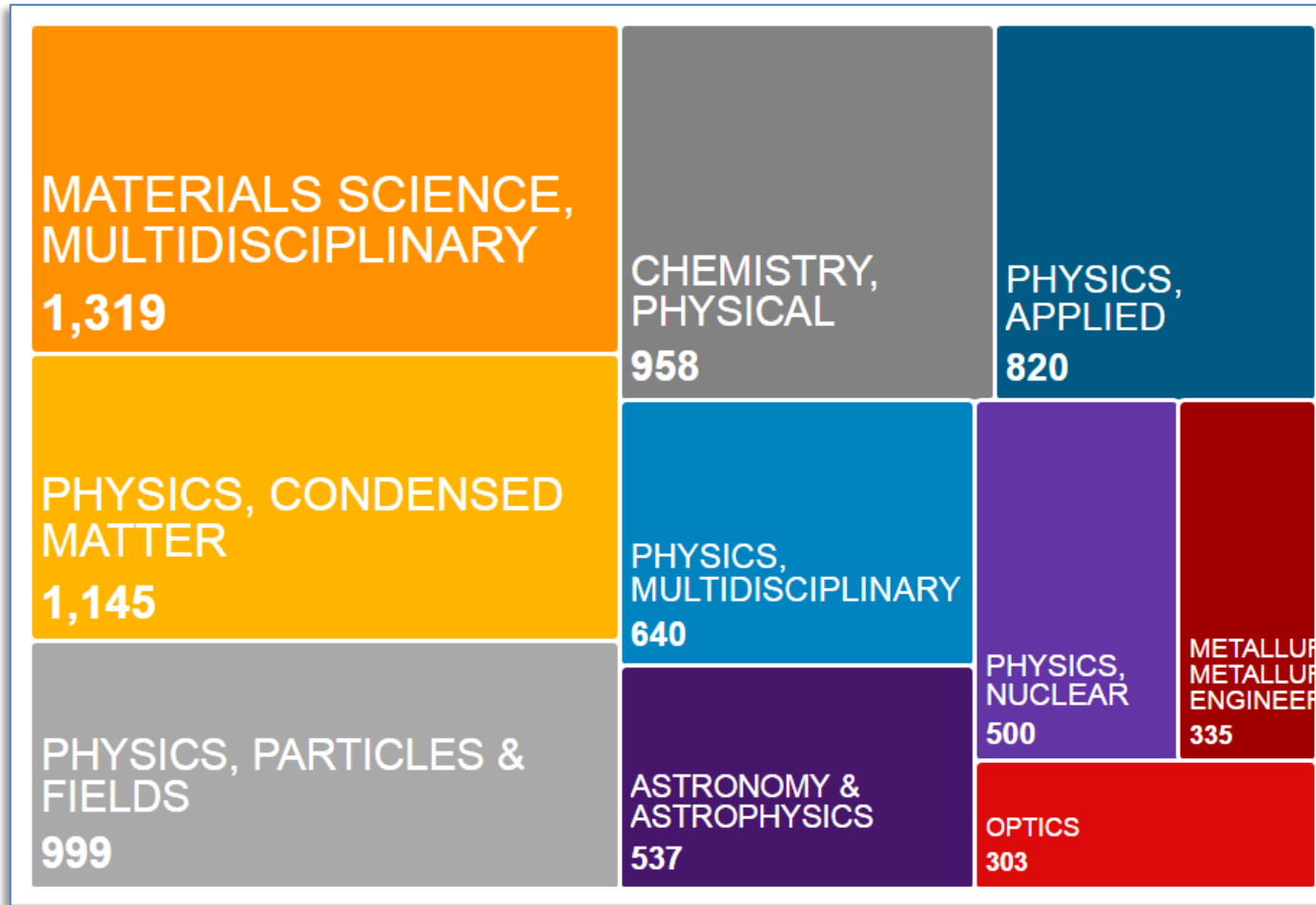
Results: 34 Institutions involved

Top Ukrainian research collaborators with Poland – efficiency (CNCI)



Source: InCites

Poland and Ukraine scientific collaboration analysis

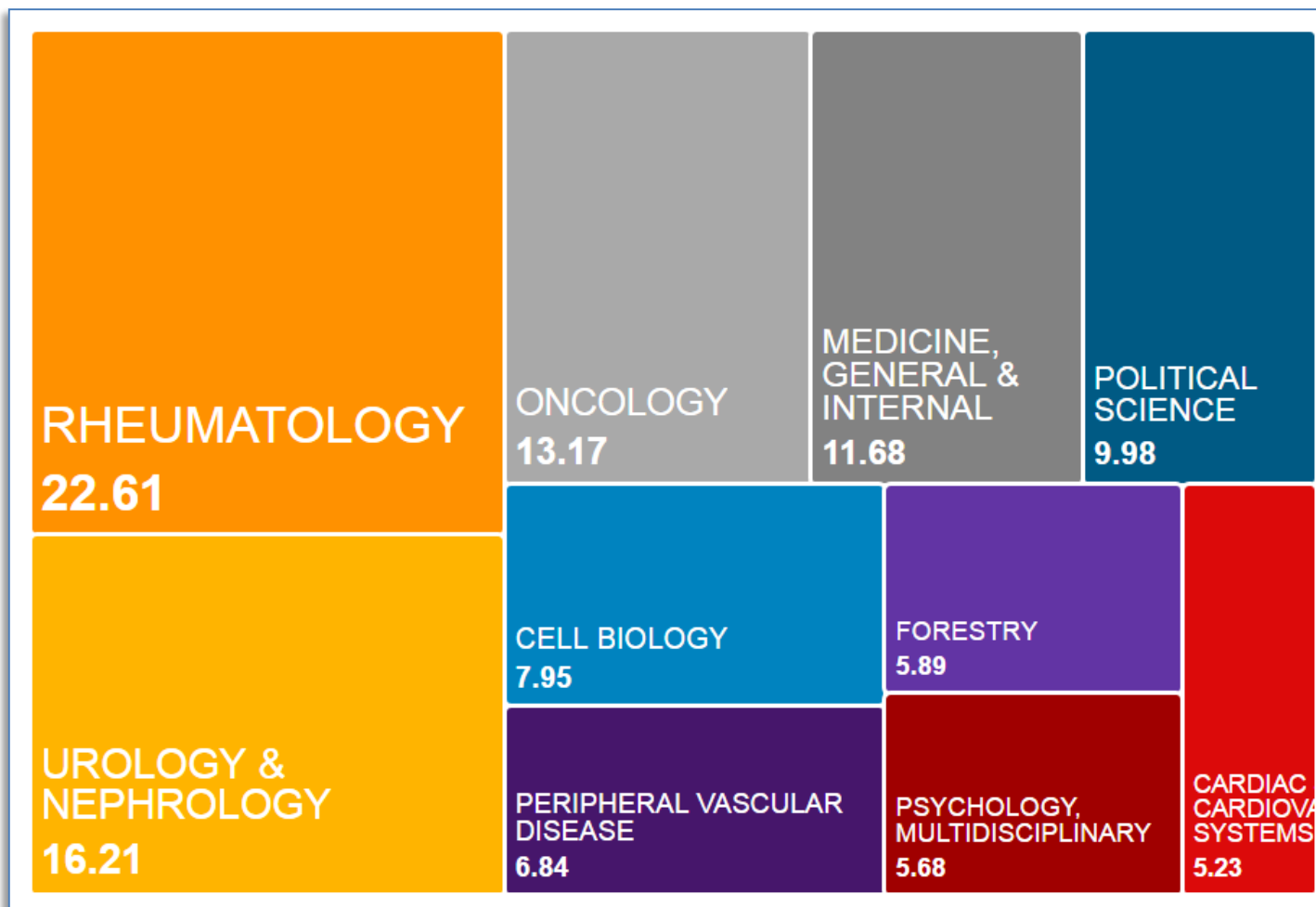


The leading fields for cooperation are: Material Science, Multidisciplinary, Physics, Condensed Matter and Physics, Particles & Fields

Source: InCites

*Number of **Web of Science Documents** includes all documents types such as: articles, reviews, conference proceeding books etc. from evaluated and proved quality sources indexed in Web of Science Core Collection

Poland and Ukraine scientific collaboration analysis



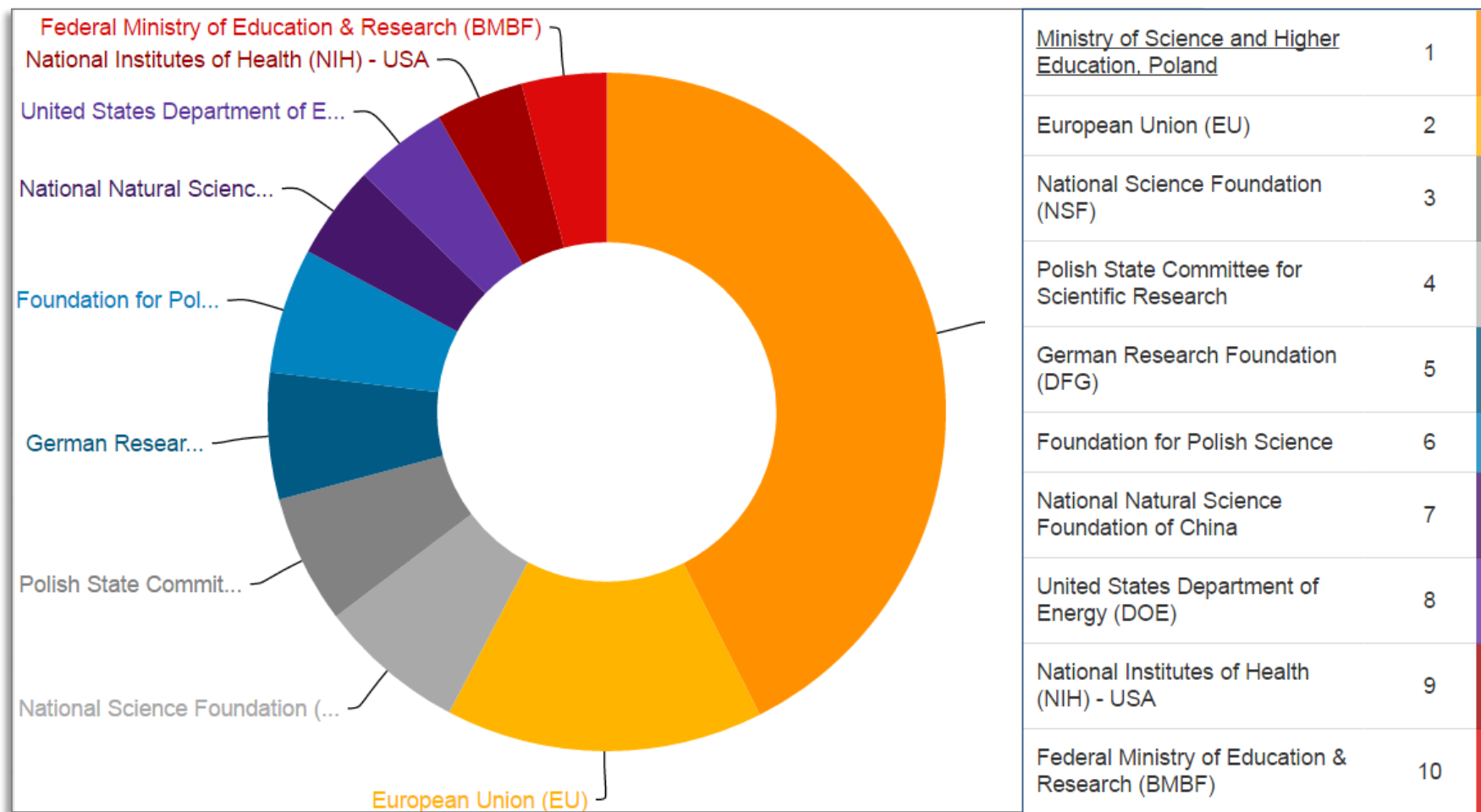
Fields with the strongest impact in this cooperation are: Rheumatology, Urology & Nephrology, Oncology, Medicine General and Internal

Source: InCites

*The **Category Normalized Citation Impact (CNCI)** value of 1 represents performance at par with world average, values above 1 are considered above average and values below 1 are considered below average.

Poland and Ukraine scientific collaboration analysis

Funding agencies structure of joint research



Source: InCites

