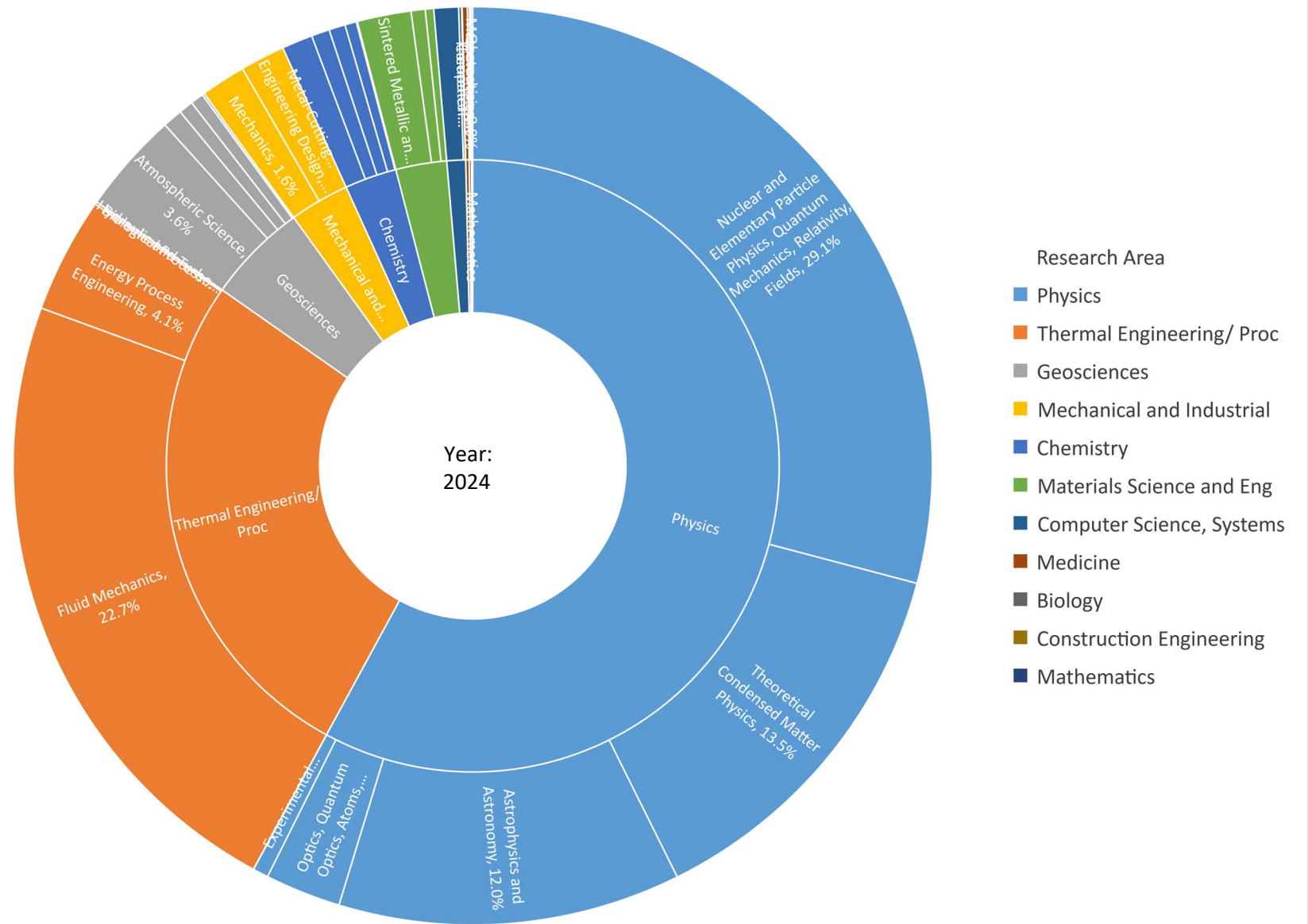


# SuperMUC-NG Usage Report



## Usage by Month

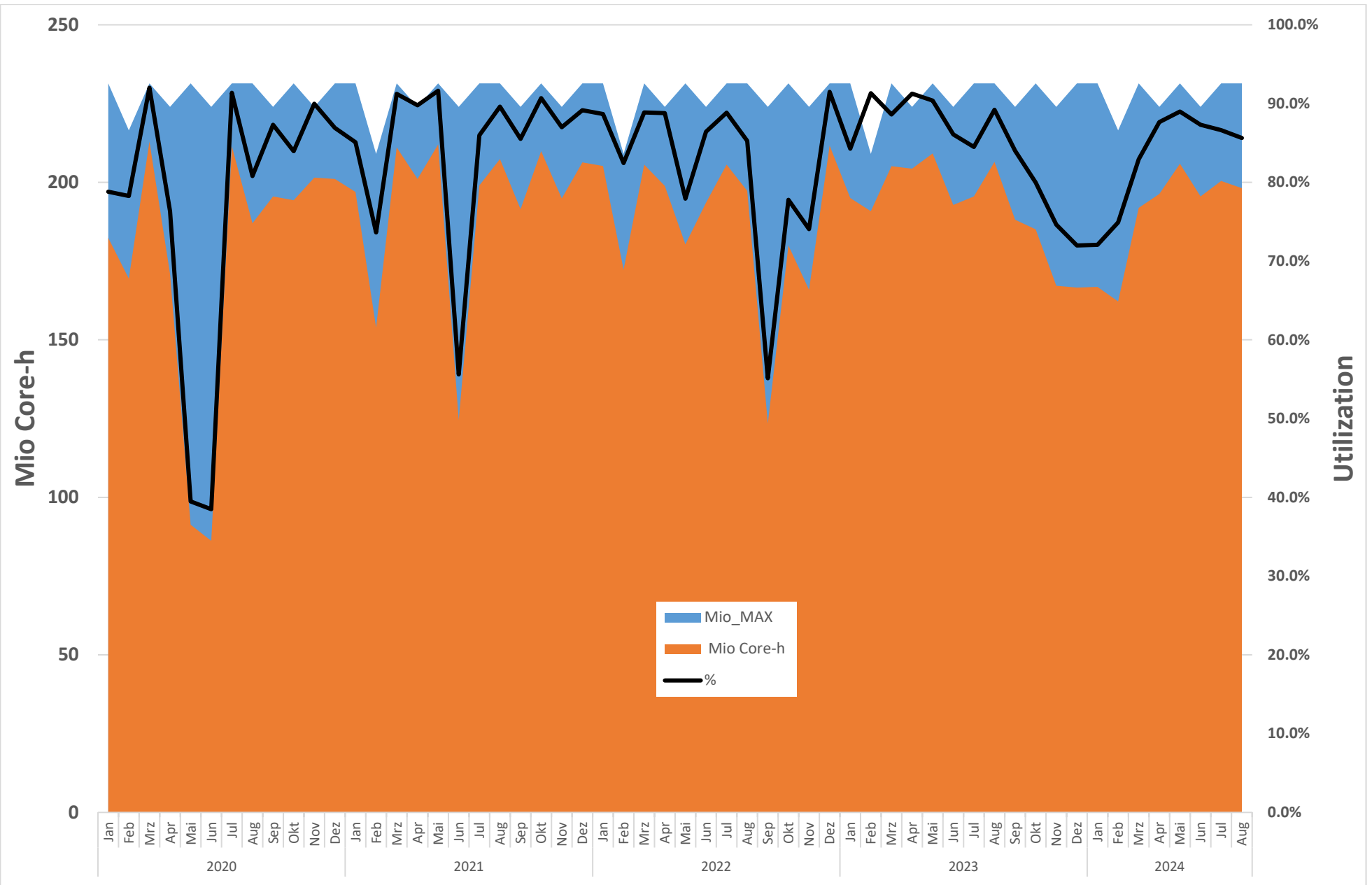
## SuperMUC-NG Phase1

Date	Mio_MAX	Mio Core-h	%	Jobs
<b>2024</b>	<b>1821.5</b>	<b>1517.2</b>	<b>83.3%</b>	<b>594092</b>
Jan	231.4	166.8	72.1%	36612
Feb	216.5	162.2	74.9%	34569
Mrz	231.4	191.9	82.9%	21783
Apr	223.9	196.3	87.6%	22219
Mai	231.4	205.9	89.0%	23056
Jun	223.9	195.6	87.3%	35125
Jul	231.4	200.4	86.6%	29727
Aug	231.4	198.1	85.6%	391001
<b>2023</b>	<b>2724.7</b>	<b>2306.3</b>	<b>84.7%</b>	<b>486284</b>
Jan	231.4	195.0	84.3%	29788
Feb	209.0	190.9	91.3%	35388
Mrz	231.4	205.1	88.6%	36127
Apr	223.9	204.4	91.3%	29195
Mai	231.4	209.1	90.4%	28627
Jun	223.9	192.8	86.1%	28807
Jul	231.4	195.5	84.5%	37750
Aug	231.4	206.5	89.2%	88275
Sep	223.9	188.1	84.0%	53017
Okt	231.4	185.1	80.0%	66415
Nov	223.9	167.1	74.6%	28063
Dez	231.4	166.6	72.0%	24832
<b>2022</b>	<b>2724.7</b>	<b>2239.8</b>	<b>82.1%</b>	<b>463217</b>
Jan	231.4	205.2	88.7%	128842
Feb	209.0	172.3	82.4%	33205
Mrz	231.4	205.7	88.9%	34542
Apr	223.9	198.9	88.8%	36868
Mai	231.4	180.3	77.9%	43918
Jun	223.9	193.5	86.4%	28624
Jul	231.4	205.6	88.8%	27065
Aug	231.4	197.3	85.3%	27901
Sep	223.9	123.5	55.1%	18982
Okt	231.4	180.0	77.8%	23405
Nov	223.9	165.9	74.1%	28960
Dez	231.4	211.7	91.5%	30905
<b>2021</b>	<b>2724.7</b>	<b>2308.5</b>	<b>84.6%</b>	<b>684638</b>
<b>2020</b>	<b>2732.2</b>	<b>2104.1</b>	<b>77.0%</b>	<b>659920</b>
<b>2019</b>	<b>1142.1</b>	<b>830.1</b>	<b>72.8%</b>	<b>181474</b>
<b>Total</b>	<b>13869.9</b>	<b>11305.9</b>	<b>81.5%</b>	<b>3069625</b>

Mio\_Max = max of potential usage

= walltime of month \* number of cores

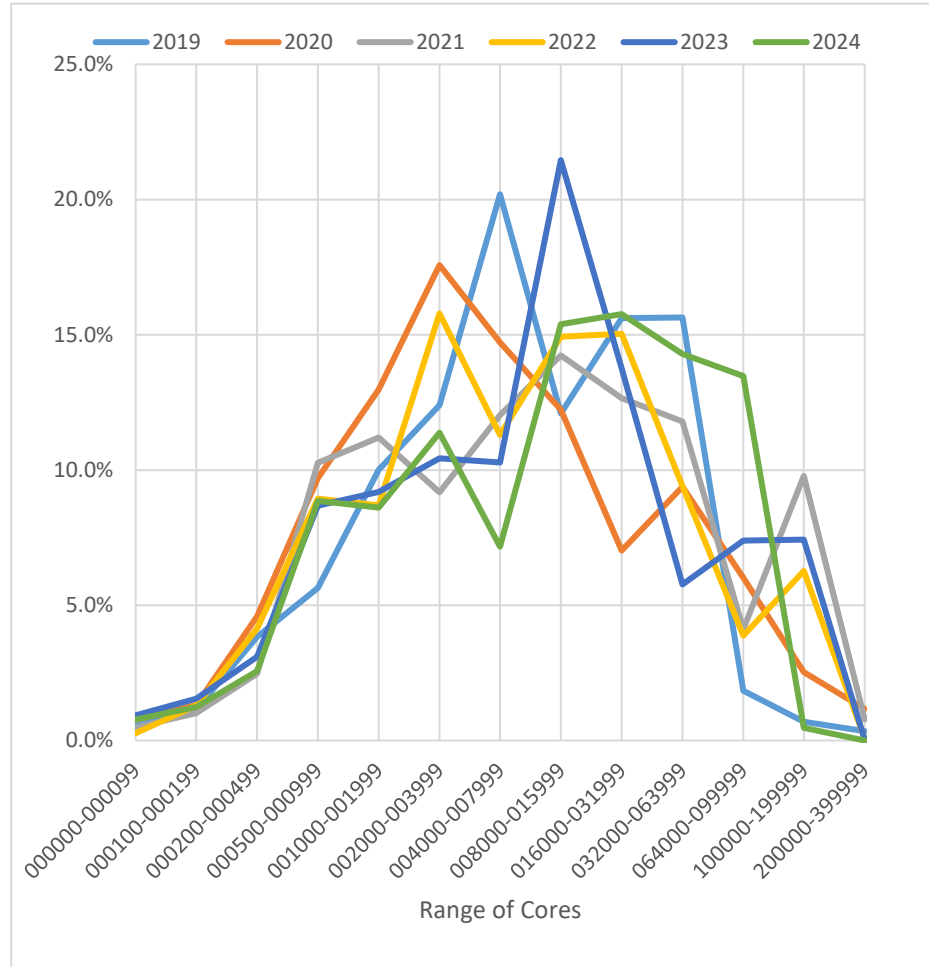
% = utilization = % of Max = Mio Core-h/Mio MAX



## Usage by Jobsize

### Usage (core-h) by Job size

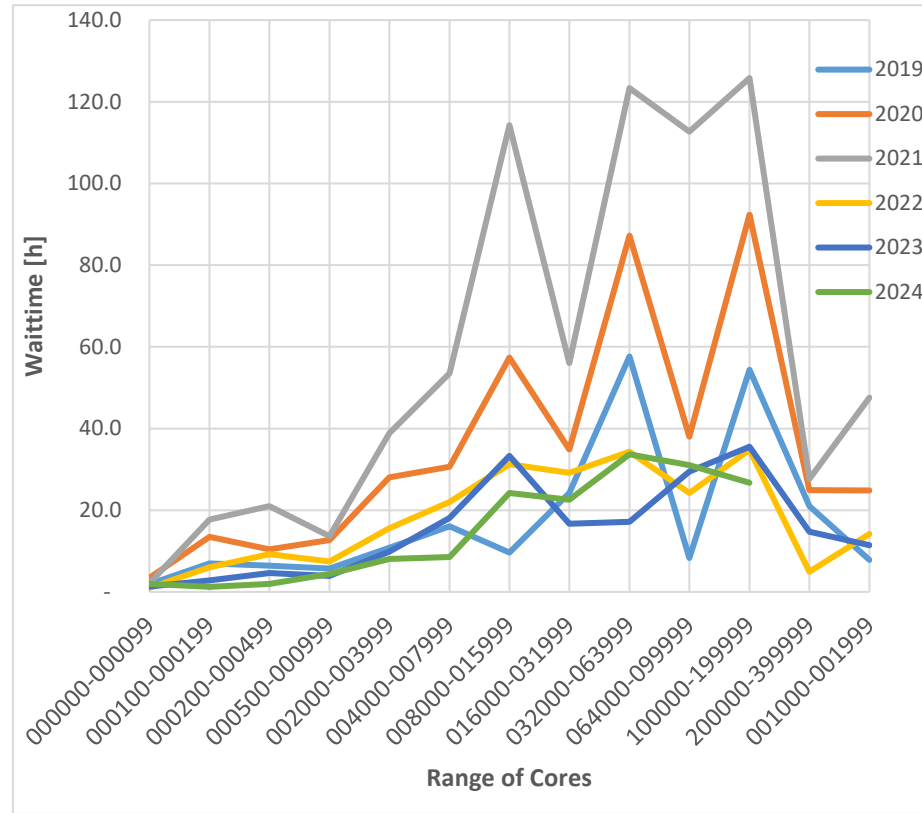
Usage by Job Size							
Range of cores	2019	2020	2021	2022	2023	2024	Total
000000-000099	0.5%	0.8%	0.5%	0.3%	0.9%	0.8%	0.6%
000100-000199	1.2%	1.3%	1.0%	1.3%	1.5%	1.2%	1.3%
000200-000499	3.8%	4.6%	2.5%	4.1%	3.1%	2.6%	3.4%
000500-000999	5.6%	9.7%	10.3%	8.9%	8.7%	8.9%	9.0%
001000-001999	10.0%	13.0%	11.2%	8.7%	9.2%	8.6%	10.2%
002000-003999	12.4%	17.6%	9.2%	15.8%	10.4%	11.4%	12.8%
004000-007999	20.2%	14.7%	12.0%	11.3%	10.3%	7.2%	12.0%
008000-015999	12.1%	12.2%	14.2%	14.9%	21.5%	15.4%	15.5%
016000-031999	15.6%	7.0%	12.7%	15.0%	13.8%	15.8%	12.9%
032000-063999	15.6%	9.4%	11.8%	9.4%	5.8%	14.3%	10.3%
064000-099999	1.8%	6.0%	4.1%	3.9%	7.4%	13.5%	6.2%
100000-199999	0.7%	2.5%	9.8%	6.3%	7.4%	0.5%	5.3%
200000-399999	0.3%	1.2%	0.8%	0.1%	0.0%	0.0%	0.4%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>



## Wait time by Jobsite

### Average Wait Time [hours] by Jobsite

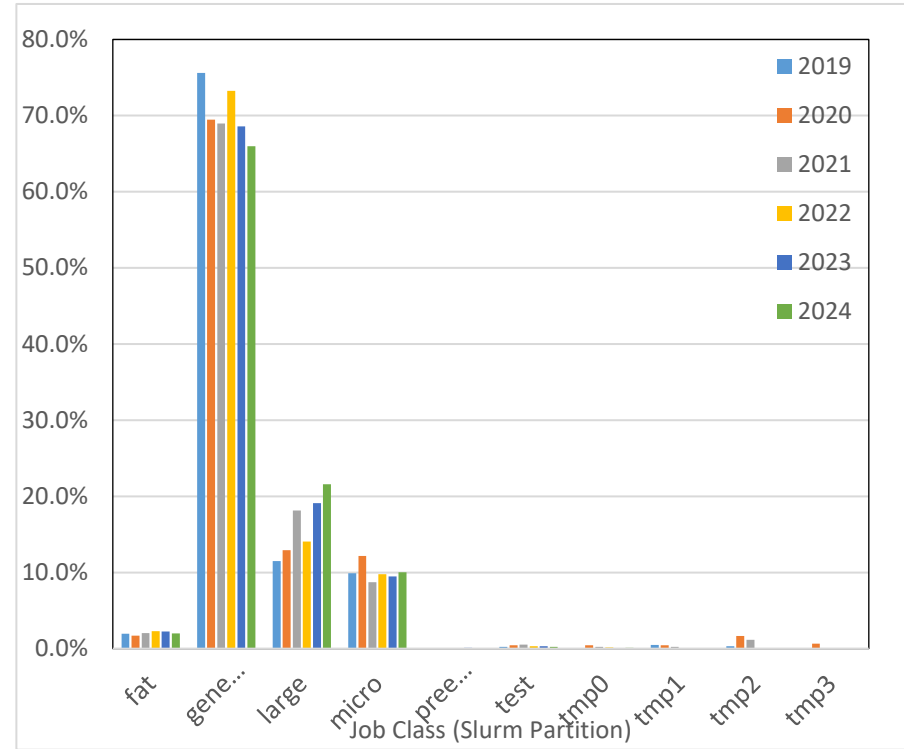
Avg. Wait Time [h]							
Jobsite [cores]	2019	2020	2021	2022	2023	2024	Total
000000-000099	1.9	3.4	2.1	1.0	1.3	1.9	1.9
000100-000199	7.0	13.5	17.7	6.0	2.8	1.2	8.0
000200-000499	6.4	10.4	21.0	9.3	4.6	1.9	8.9
000500-000999	5.7	12.7	13.7	7.5	3.9	4.4	8.0
002000-003999	10.8	28.1	38.9	15.6	9.9	8.1	18.6
004000-007999	16.0	30.7	53.5	22.0	18.1	8.5	24.8
008000-015999	9.6	57.3	114.3	31.3	33.3	24.2	45.0
016000-031999	24.2	34.9	56.0	29.1	16.6	22.6	30.6
032000-063999	57.7	87.3	123.4	34.3	17.1	33.7	58.9
064000-099999	8.3	38.0	112.7	24.2	29.5	31.1	40.6
100000-199999	54.4	92.4	125.8	34.8	35.5	26.8	61.6
200000-399999	21.0	24.9	27.6	4.9	14.8		18.6
001000-001999	7.8	24.8	47.6	14.2	11.5	4.3	18.4
<b>Total</b>	<b>17.8</b>	<b>35.3</b>	<b>58.0</b>	<b>18.0</b>	<b>15.3</b>	<b>14.0</b>	<b>26.6</b>



## Usage by Job Class

### % Usage (core-h) by Jobclass

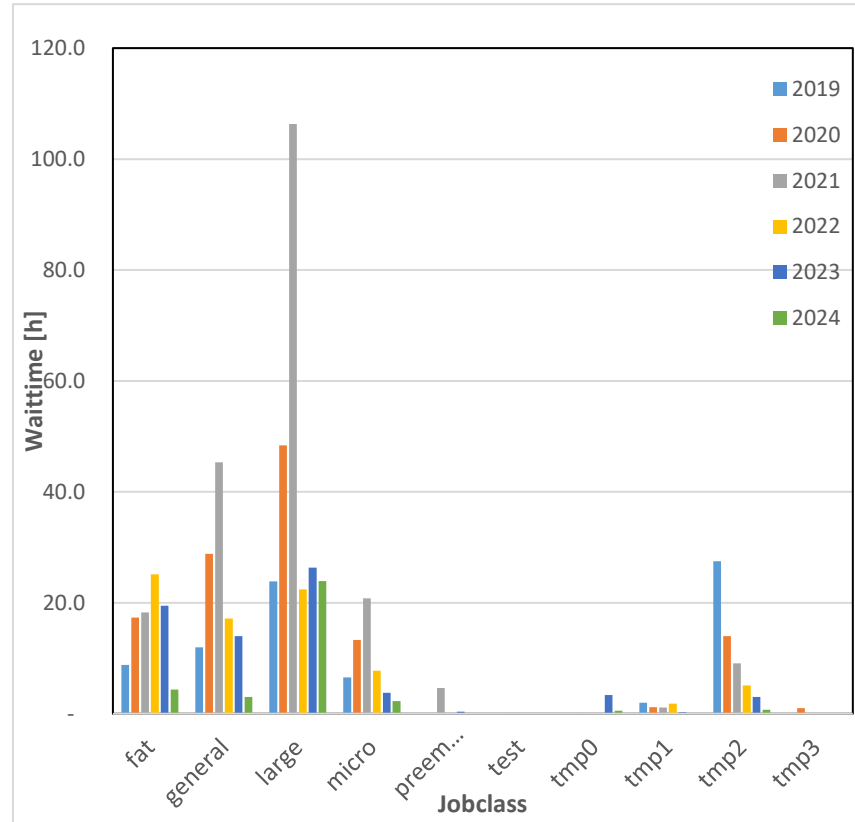
Usage	2019	2020	2021	2022	2023	2024	Total
fat	2.0%	1.7%	2.0%	2.3%	2.3%	2.0%	2.1%
general	75.6%	69.5%	69.0%	73.3%	68.6%	66.0%	69.9%
large	11.5%	12.9%	18.2%	14.1%	19.1%	21.6%	16.5%
micro	9.9%	12.2%	8.7%	9.8%	9.5%	10.0%	10.0%
preempt	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
test	0.2%	0.5%	0.5%	0.3%	0.3%	0.2%	0.4%
tmp0	0.0%	0.5%	0.2%	0.2%	0.0%	0.1%	0.2%
tmp1	0.5%	0.4%	0.2%	0.1%	0.0%	0.0%	0.2%
tmp2	0.3%	1.7%	1.1%	0.1%	0.0%	0.0%	0.6%
tmp3	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>



## Waittime by Job Class

### Average Wait Time [hours] by Jobclass

Avg Wait_h	2019	2020	2021	2022	2023	2024	Total
fat	8.8	17.3	18.3	25.1	19.4	4.4	15.6
general	12.0	28.8	45.3	17.2	14.0	3.0	17.6
large	23.9	48.4	106.3	22.4	26.3	23.9	39.3
micro	6.6	13.3	20.8	7.7	3.8	2.3	9.1
preempt	na	na	4.6	na	0.4	0.1	1.7
test	0.1	0.1	0.1	0.0	0.0	0.1	0.1
tmp0	na	0.2	0.0	0.1	3.4	0.6	0.8
tmp1	2.0	1.2	1.2	1.8	0.2	na	1.3
tmp2	27.5	14.0	9.1	5.1	3.0	0.7	8.6
tmp3	na	1.0	0.0	na	na	na	0.5
<b>Total</b>	<b>11.5</b>	<b>13.8</b>	<b>20.6</b>	<b>9.9</b>	<b>7.8</b>	<b>5.2</b>	<b>11.3</b>



## Usage by Research Area

## Usage by Research Area (DFG Classification Level 2, 3 and 4)

LV2 LV3 LV4

Usage	2019	2020	2021	2022	2023	2024	Total
<b>Physics</b>	<b>57.8%</b>	<b>52.9%</b>	<b>56.0%</b>	<b>53.3%</b>	<b>57.9%</b>	<b>57.9%</b>	<b>55.7%</b>
<b>Particles, Nuclei and Fields</b>	<b>26.8%</b>	<b>25.8%</b>	<b>20.5%</b>	<b>20.0%</b>	<b>29.1%</b>	<b>29.1%</b>	<b>24.8%</b>
Nuclear and Elementary Particle Physics, Quantum Mechanics, Relativity, Fields	26.8%	25.8%	20.5%	20.0%	29.1%	29.1%	24.8%
<b>Astrophysics and Astronomy</b>	<b>20.8%</b>	<b>16.7%</b>	<b>19.3%</b>	<b>19.4%</b>	<b>13.5%</b>	<b>12.0%</b>	<b>16.8%</b>
Astrophysics and Astronomy	20.8%	16.7%	19.3%	19.4%	13.5%	12.0%	16.8%
<b>Condensed Matter Physics</b>	<b>9.7%</b>	<b>8.2%</b>	<b>13.6%</b>	<b>10.7%</b>	<b>11.9%</b>	<b>13.5%</b>	<b>11.4%</b>
Theoretical Condensed Matter Physics	9.7%	7.4%	13.1%	10.6%	11.9%	13.5%	11.1%
Experimental Condensed Matter Physics	0.0%	0.8%	0.5%	0.1%	0.0%	0.0%	0.3%
<b>Optics, Quantum Optics and Physics of Atoms, Molecules and Plasmas</b>	<b>0.5%</b>	<b>2.1%</b>	<b>2.5%</b>	<b>3.2%</b>	<b>1.7%</b>	<b>2.7%</b>	<b>2.3%</b>
Optics, Quantum Optics, Atoms, Molecules, Plasmas	0.5%	2.1%	2.5%	3.2%	1.7%	2.7%	2.3%
<b>Statistical Physics, Soft Matter, Biological Physics, Nonlinear Dynamics</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>1.7%</b>	<b>0.5%</b>	<b>0.4%</b>
Statistical Physics, Soft Matter, Biological Physics, Nonlinear Dynamics	0.0%	0.0%	0.0%	0.0%	1.7%	0.5%	0.4%
<b>Thermal Engineering/ Process Engineering</b>	<b>26.5%</b>	<b>27.3%</b>	<b>22.2%</b>	<b>28.5%</b>	<b>27.4%</b>	<b>26.8%</b>	<b>26.4%</b>
<b>Heat Energy Technology, Thermal Machines, Fluid Mechanics</b>	<b>26.5%</b>	<b>26.8%</b>	<b>22.2%</b>	<b>26.1%</b>	<b>26.7%</b>	<b>26.8%</b>	<b>25.7%</b>
Fluid Mechanics	26.4%	22.3%	19.1%	25.8%	26.5%	22.7%	23.5%
Technical Thermodynamics	0.1%	4.4%	3.1%	0.3%	0.2%	0.1%	1.6%
Energy Process Engineering	0.0%	0.2%	0.0%	0.0%	0.0%	4.1%	0.6%
Hydraulic and Turbo Engines and Piston Engines	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Process Engineering, Technical Chemistry</b>	<b>0.1%</b>	<b>0.5%</b>	<b>0.0%</b>	<b>2.4%</b>	<b>0.7%</b>	<b>0.0%</b>	<b>0.7%</b>
Chemical and Thermal Process Engineering	0.0%	0.0%	0.0%	2.4%	0.7%	0.0%	0.6%
Biological Process Engineering	0.1%	0.5%	0.0%	0.0%	0.0%	0.0%	0.1%
<b>Geosciences</b>	<b>4.9%</b>	<b>2.6%</b>	<b>5.9%</b>	<b>4.2%</b>	<b>5.8%</b>	<b>5.3%</b>	<b>4.8%</b>
<b>Atmospheric Science, Oceanography and Climate Research</b>	<b>0.9%</b>	<b>0.3%</b>	<b>2.1%</b>	<b>2.1%</b>	<b>4.3%</b>	<b>3.6%</b>	<b>2.3%</b>
Atmospheric Science	0.9%	0.3%	2.1%	2.1%	4.3%	3.6%	2.3%
<b>Geophysics and Geodesy</b>	<b>0.9%</b>	<b>1.3%</b>	<b>3.2%</b>	<b>1.7%</b>	<b>1.2%</b>	<b>0.8%</b>	<b>1.6%</b>
Geophysics	0.5%	0.8%	2.5%	1.4%	1.1%	0.7%	1.3%
Geodesy, Photogrammetry, Remote Sensing, Geoinformatics, Cartography	0.3%	0.5%	0.7%	0.3%	0.0%	0.1%	0.3%
<b>Geochemistry, Mineralogy and Crystallography</b>	<b>3.2%</b>	<b>0.9%</b>	<b>0.3%</b>	<b>0.2%</b>	<b>0.3%</b>	<b>0.5%</b>	<b>0.6%</b>
Geochemistry, Mineralogy and Crystallography	3.2%	0.9%	0.3%	0.2%	0.3%	0.5%	0.6%
<b>Water Research</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.1%</b>	<b>0.5%</b>	<b>0.2%</b>
Hydrogeology, Hydrology, Limnology, Urban Water Management, Water Chemistry, Integrated Water Resources Management	0.0%	0.0%	0.2%	0.2%	0.1%	0.5%	0.2%
<b>Geography</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Physical Geography	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Chemistry</b>	<b>1.2%</b>	<b>5.0%</b>	<b>4.7%</b>	<b>5.7%</b>	<b>2.1%</b>	<b>2.7%</b>	<b>3.9%</b>

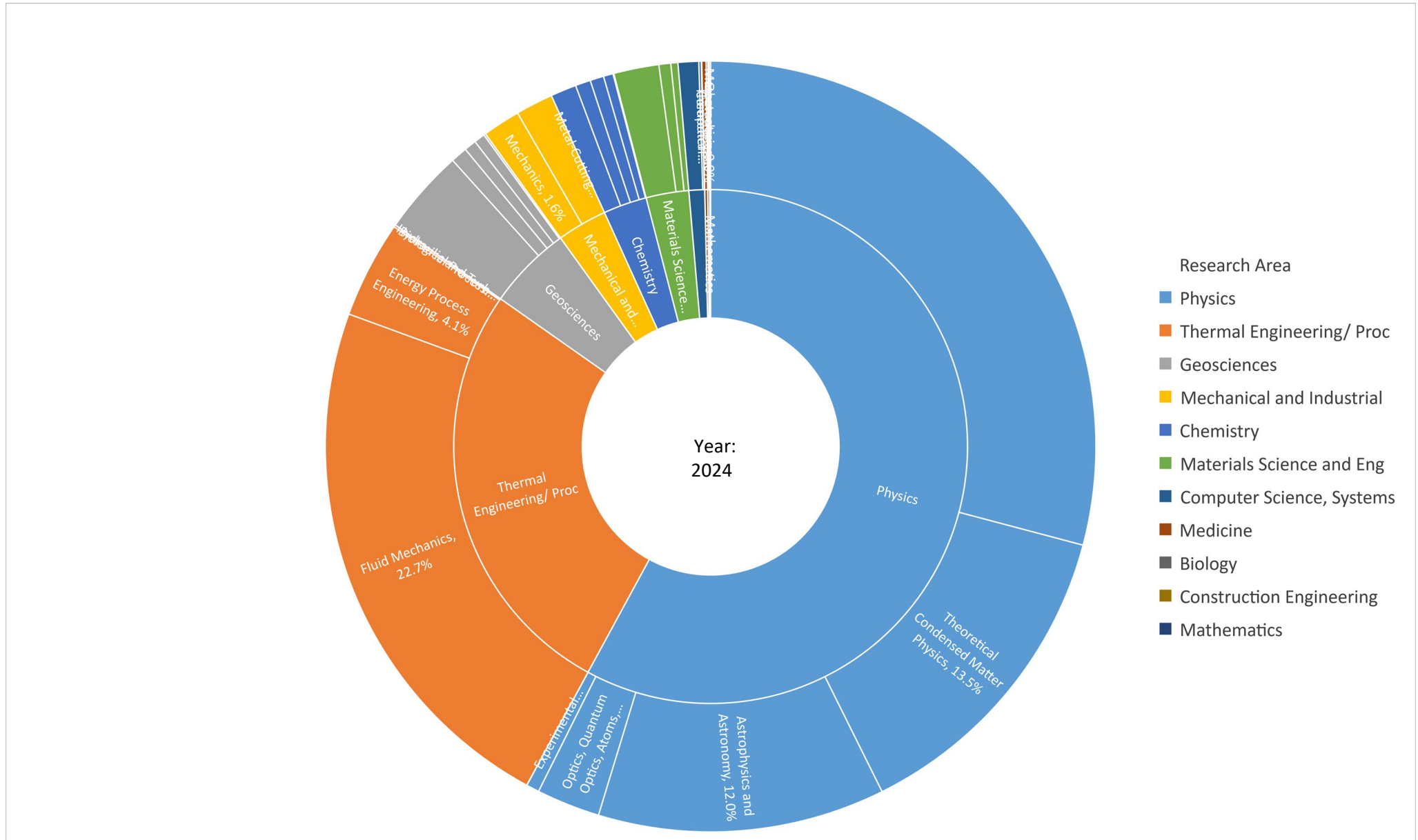






# Usage by Research Area

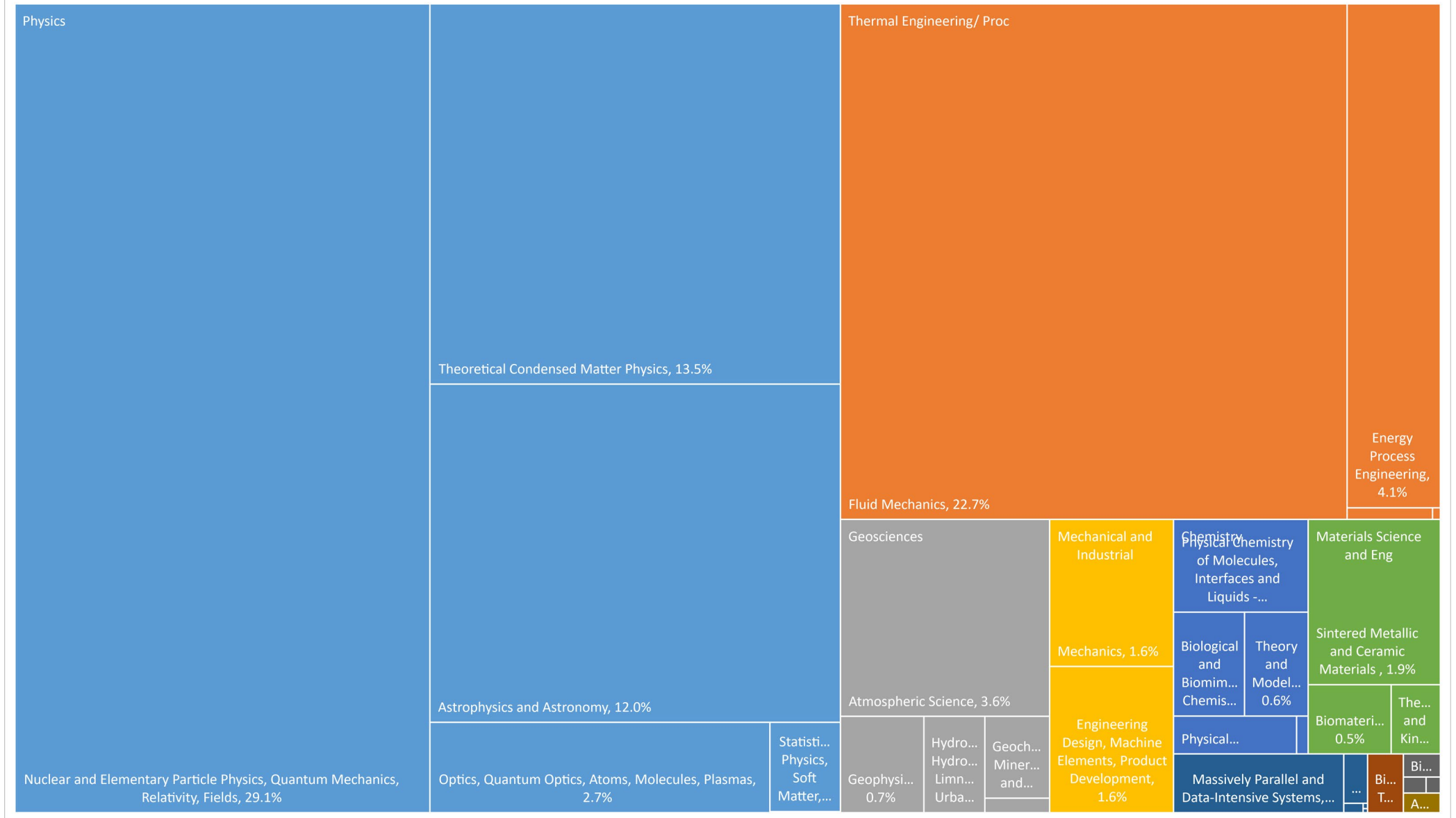
## Usage by Research Area (DFG Level 2 and 3)



# Usage by Research Area

## Usage by Research Area (DFG Level 2 and 3)

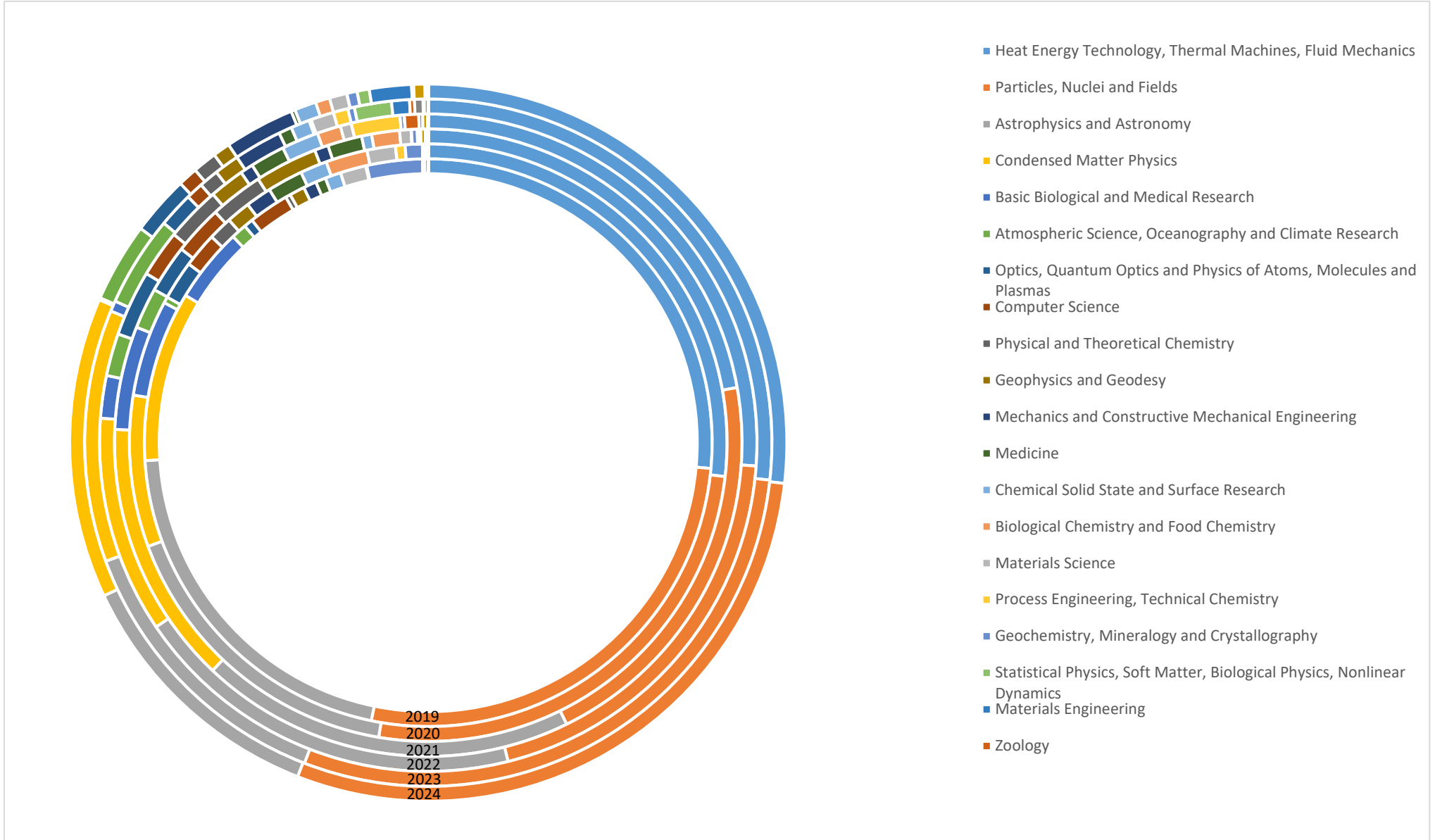
Year: 2024



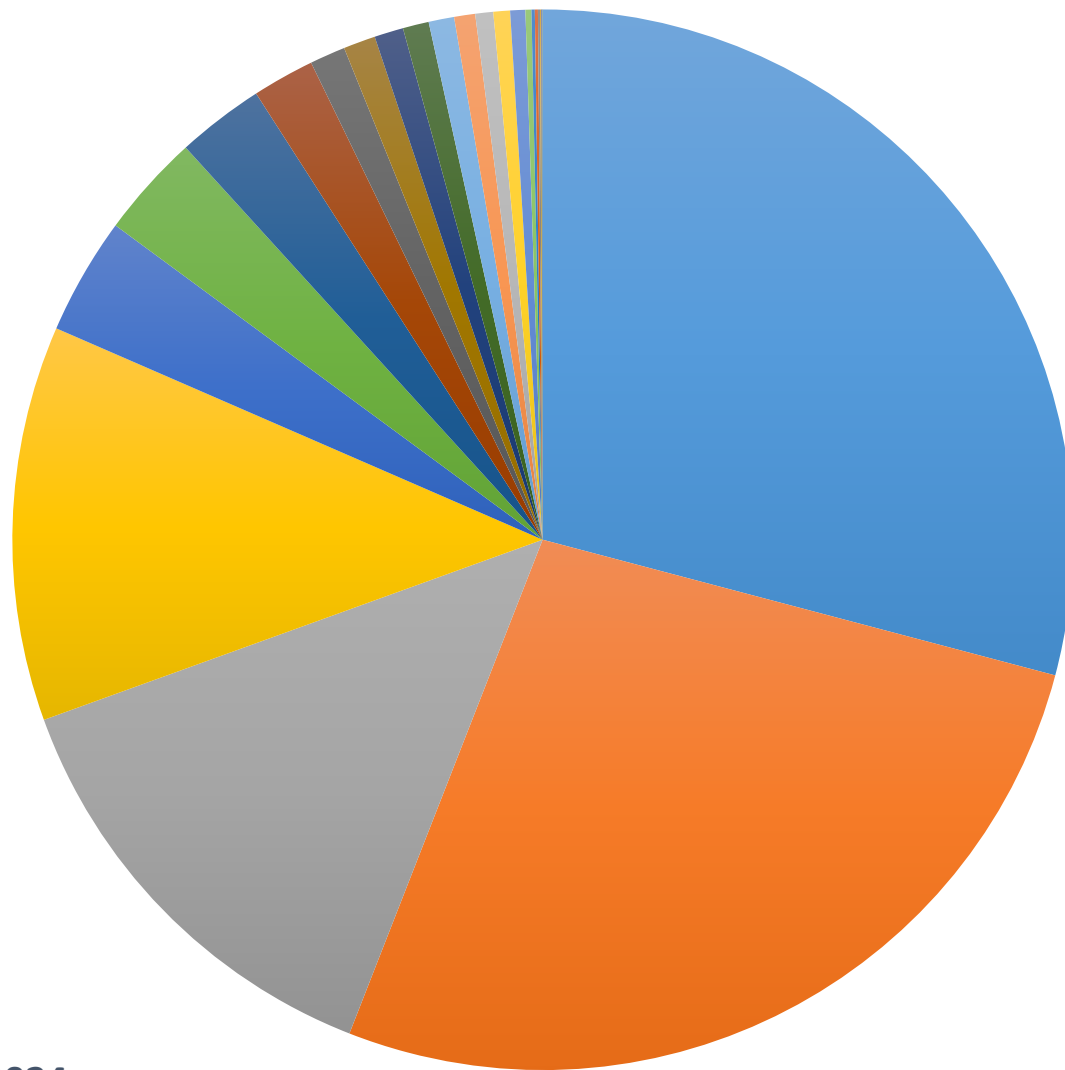


# Usage by Research Area

## Usage By Research Area (DFG Llevel 3)



Usage



DFG\_TOPIC\_LVL3\_DESC

- Particles, Nuclei and Fields
- Heat Energy Technology, Thermal Machines, Fluid Mechanics
- Condensed Matter Physics
- Astrophysics and Astronomy
- Atmospheric Science, Oceanography and Climate Research
- Mechanics and Constructive Mechanical Engineering
- Optics, Quantum Optics and Physics of Atoms, Molecules and Plasmas
- Materials Engineering
- Physical and Theoretical Chemistry
- Chemical Solid State and Surface Research
- Computer Science
- Materials Science
- Geophysics and Geodesy
- Biological Chemistry and Food Chemistry
- Statistical Physics, Soft Matter, Biological Physics, Nonlinear Dynamics
- Water Research

2024

Year

