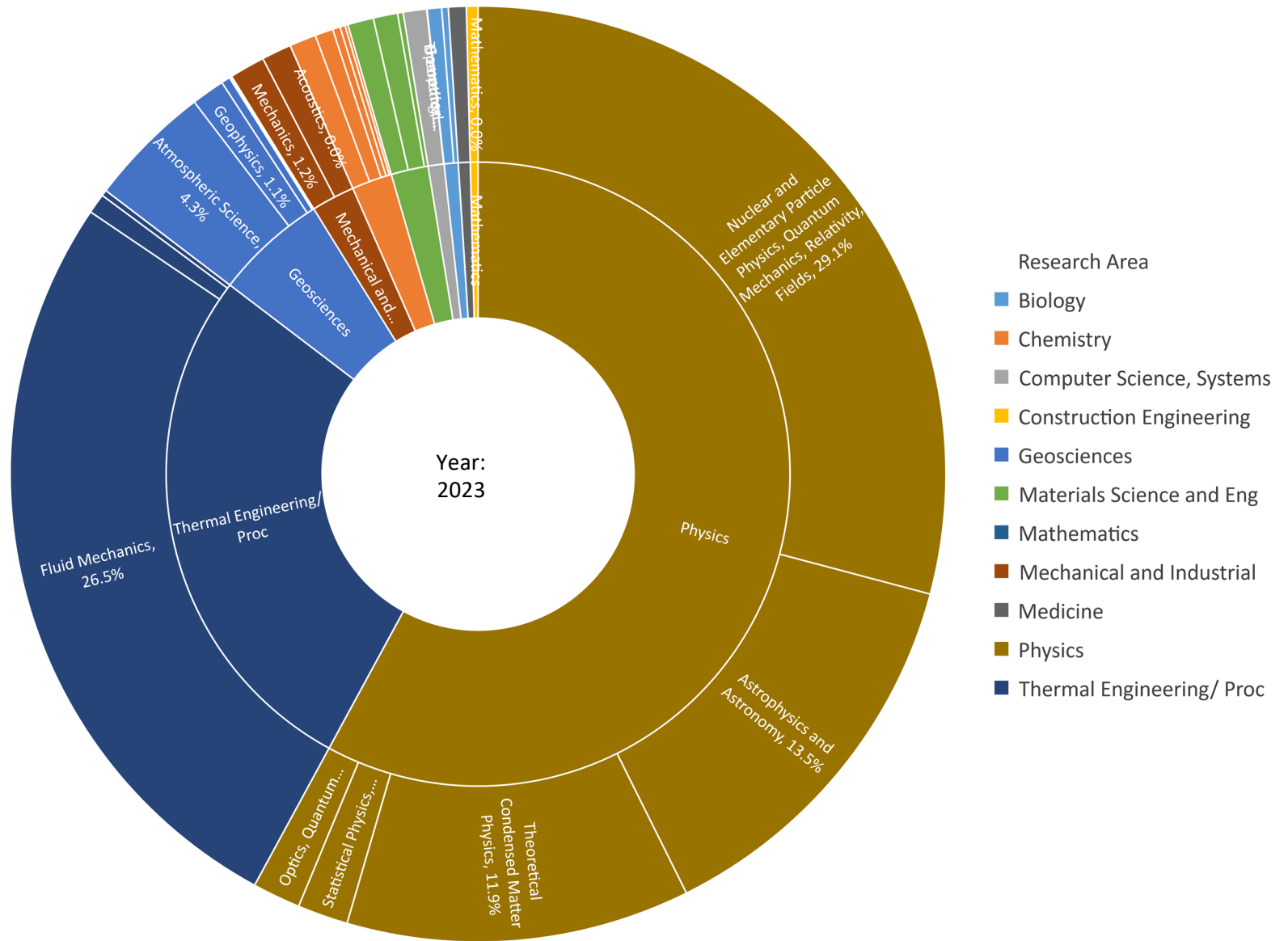


# SuperMUC-NG Usage Report



## Usage by Month

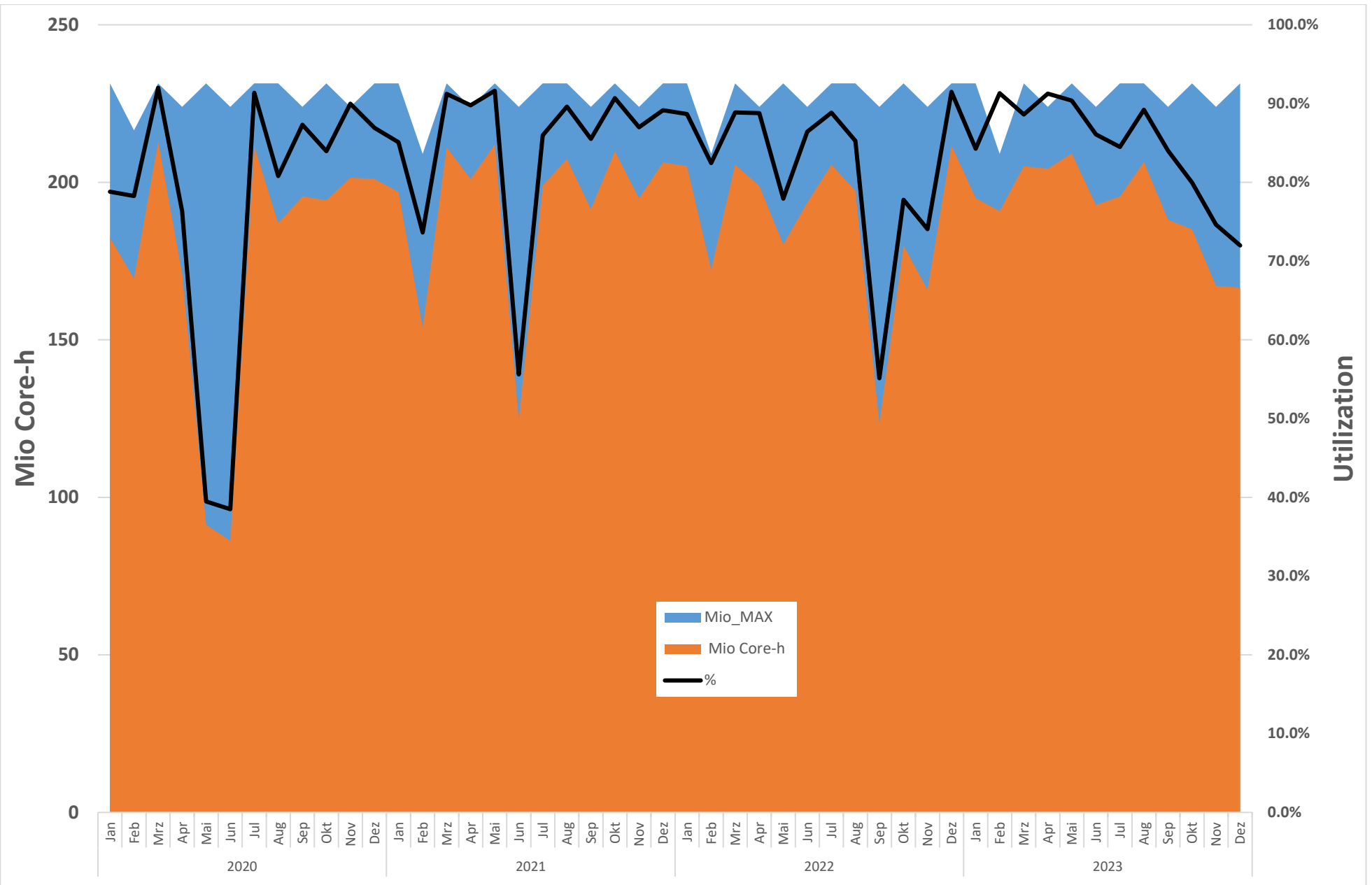
## Usage

Date	Mio_MAX	Mio Core-h	%	Jobs
<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>
Jan	231.4	196.9	85.1%	49337
Feb	209.0	153.9	73.6%	33262
Mrz	231.4	211.1	91.2%	42485
Apr	223.9	201.0	89.8%	36112
Mai	231.4	212.0	91.6%	33933
Jun	223.9	124.5	55.6%	26573
Jul	231.4	199.0	86.0%	46100
Aug	231.4	207.4	89.6%	34126
Sep	223.9	191.5	85.5%	35375
Okt	231.4	209.9	90.7%	33786
Nov	223.9	194.9	87.0%	25767
Dez	231.4	206.3	89.2%	287782
<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>12048.4</b>	<b>9788.7</b>	<b>81.2%</b>	<b>2475533</b>

Mio\_Max = max of potential usage

= walltime of month \* number of cores

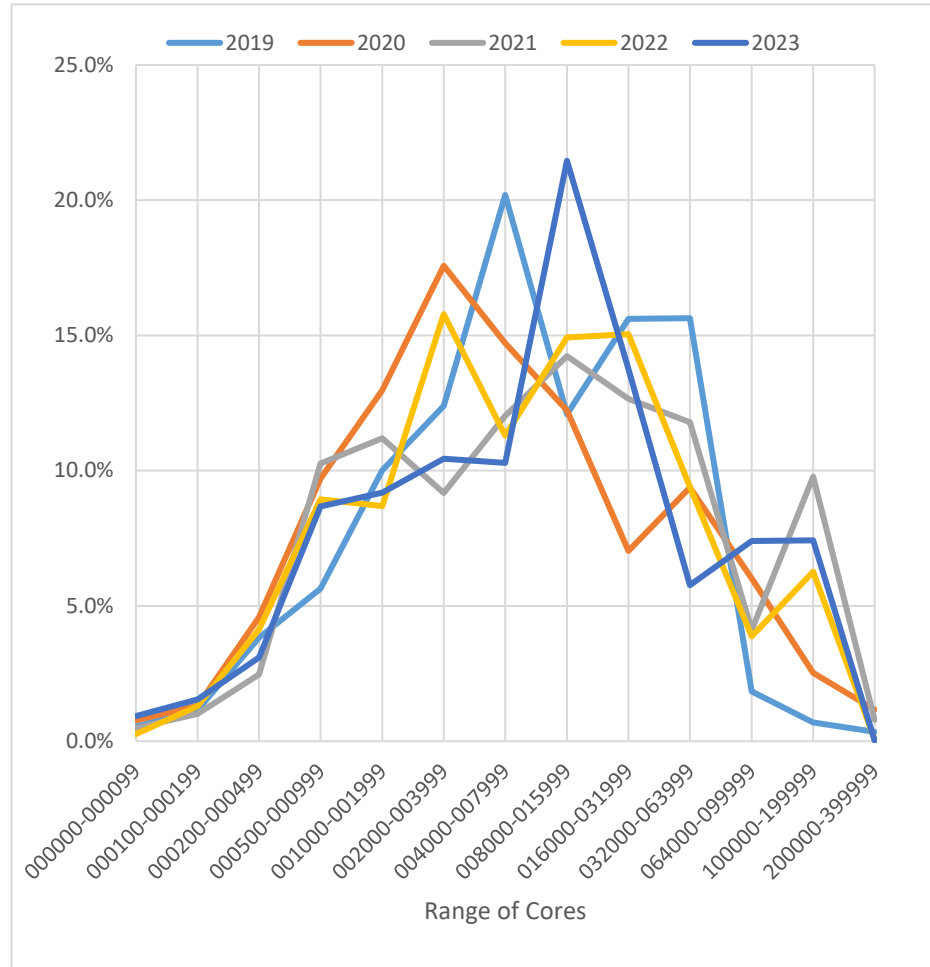
% = utilization = % of Max = Mio Core-h/Mio MAX



## Usage by Jobsize

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

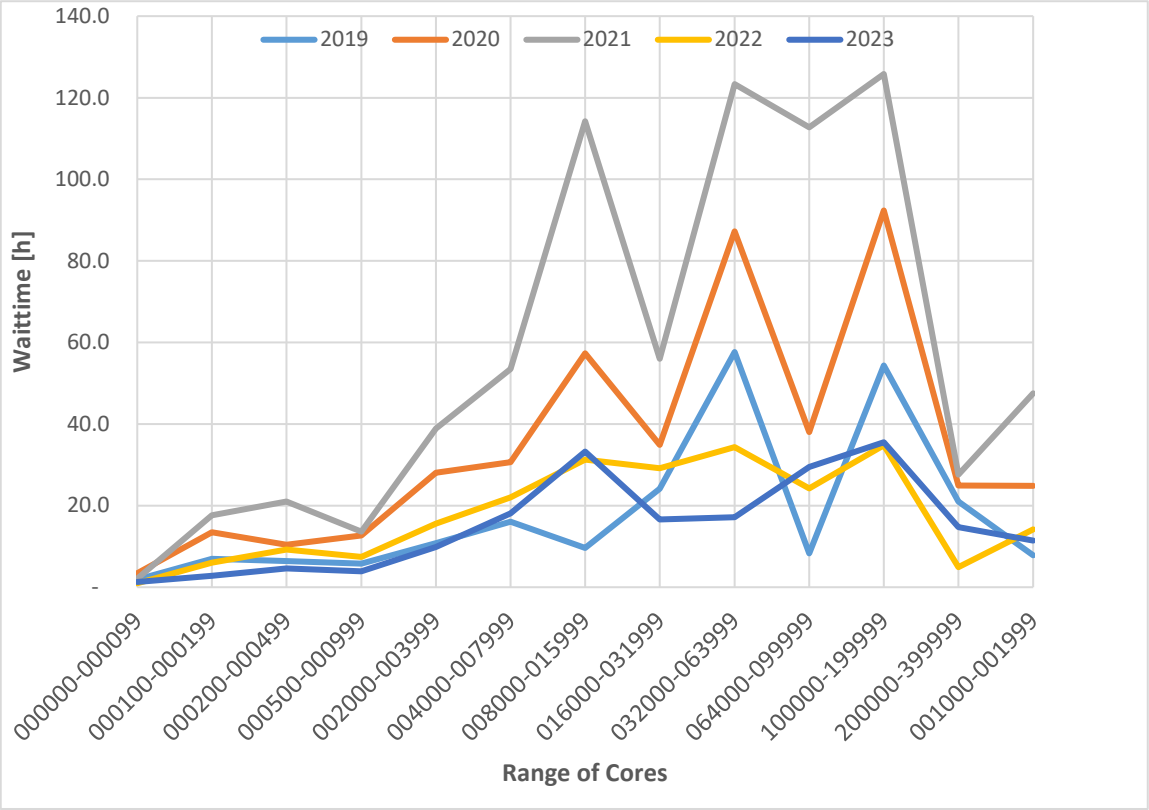
Usage by Job Size						
Range of cores	2019	2020	2021	2022	2023	Total
000000-000099	0.5%	0.8%	0.5%	0.3%	0.9%	0.6%
000100-000199	1.2%	1.3%	1.0%	1.3%	1.5%	1.3%
000200-000499	3.8%	4.6%	2.5%	4.1%	3.1%	3.6%
000500-000999	5.6%	9.7%	10.3%	8.9%	8.7%	9.1%
001000-001999	10.0%	13.0%	11.2%	8.7%	9.2%	10.4%
002000-003999	12.4%	17.6%	9.2%	15.8%	10.4%	13.1%
004000-007999	20.2%	14.7%	12.0%	11.3%	10.3%	12.7%
008000-015999	12.1%	12.2%	14.2%	14.9%	21.5%	15.5%
016000-031999	15.6%	7.0%	12.7%	15.0%	13.8%	12.5%
032000-063999	15.6%	9.4%	11.8%	9.4%	5.8%	9.6%
064000-099999	1.8%	6.0%	4.1%	3.9%	7.4%	5.0%
100000-199999	0.7%	2.5%	9.8%	6.3%	7.4%	6.1%
200000-399999	0.3%	1.2%	0.8%	0.1%	0.0%	0.5%
<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>



Wait time by Jobsite

Average Wait Time [hours] by Jobsite

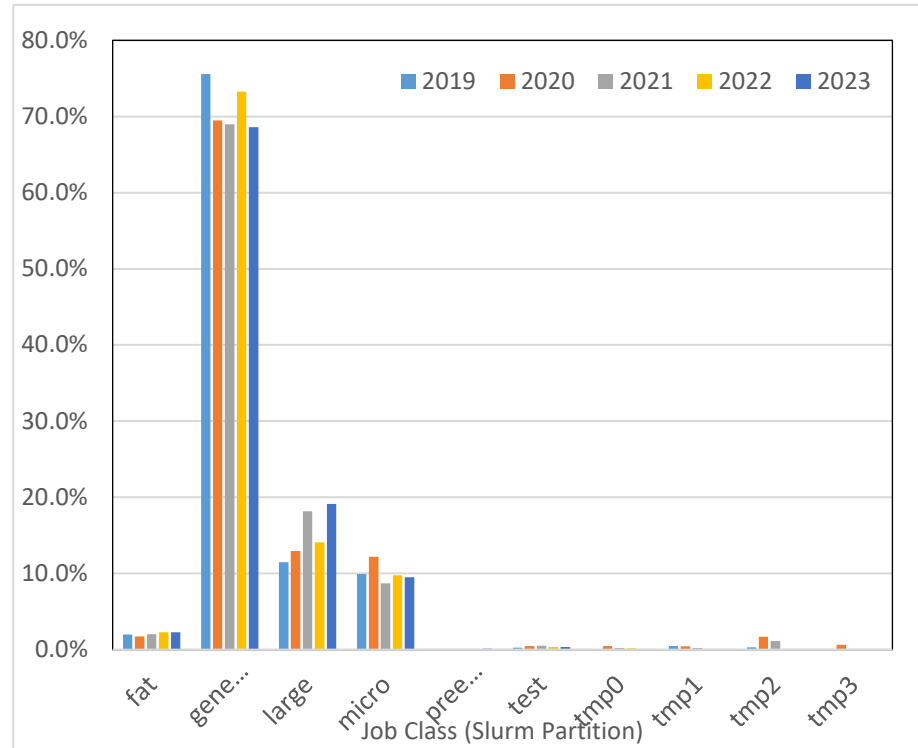
Avg. Wait Time [h]						
Jobsite [cores]	2019	2020	2021	2022	2023	Total
000000-000099	1.9	3.4	2.1	1.0	1.3	1.9
000100-000199	7.0	13.5	17.7	6.0	2.8	9.4
000200-000499	6.4	10.4	21.0	9.3	4.6	10.3
000500-000999	5.7	12.7	13.7	7.5	3.9	8.7
002000-003999	10.8	28.1	38.9	15.6	9.9	20.7
004000-007999	16.0	30.7	53.5	22.0	18.1	28.1
008000-015999	9.6	57.3	114.3	31.3	33.3	49.2
016000-031999	24.2	34.9	56.0	29.1	16.6	32.2
032000-063999	57.7	87.3	123.4	34.3	17.1	63.9
064000-099999	8.3	38.0	112.7	24.2	29.5	42.6
100000-199999	54.4	92.4	125.8	34.8	35.5	68.6
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	21.2
<b>Total</b>	<b>17.8</b>	<b>35.3</b>	<b>58.0</b>	<b>18.0</b>	<b>15.3</b>	<b>28.9</b>



## Usage by Job Class

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

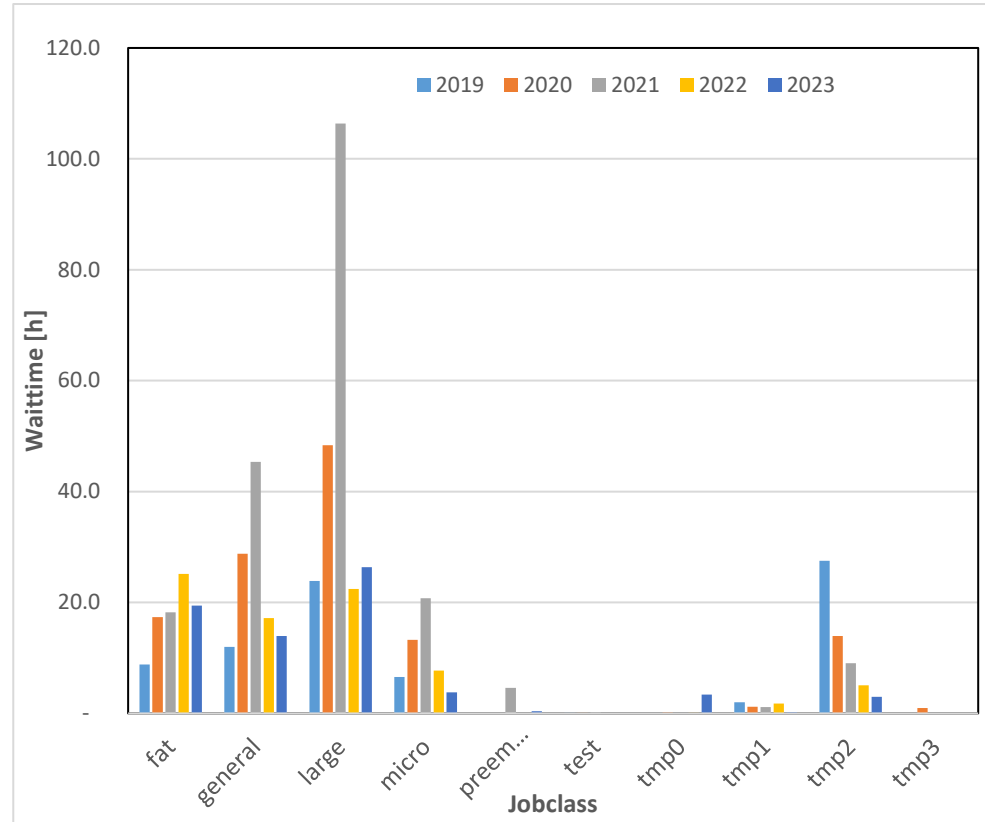
Usage	2019	2020	2021	2022	2023	Total
fat	2.0%	1.7%	2.0%	2.3%	2.3%	2.1%
general	75.6%	69.5%	69.0%	73.3%	68.6%	70.5%
large	11.5%	12.9%	18.2%	14.1%	19.1%	15.8%
micro	9.9%	12.2%	8.7%	9.8%	9.5%	10.0%
preempt	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
test	0.2%	0.5%	0.5%	0.3%	0.3%	0.4%
tmp0	0.0%	0.5%	0.2%	0.2%	0.0%	0.2%
tmp1	0.5%	0.4%	0.2%	0.1%	0.0%	0.2%
tmp2	0.3%	1.7%	1.1%	0.1%	0.0%	0.7%
tmp3	0.0%	0.6%	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>



### Waittime by Job Class

#### Average Wait Time [hours] by Jobclass

Avg Wait_h	2019	2020	2021	2022	2023	Total
fat	8.8	17.3	18.3	25.1	19.4	17.8
general	12.0	28.8	45.3	17.2	14.0	23.5
large	23.9	48.4	106.3	22.4	26.3	45.5
micro	6.6	13.3	20.8	7.7	3.8	10.4
preempt	na	na	4.6	na	0.4	2.5
test	0.1	0.1	0.1	0.0	0.0	0.1
tmp0	na	0.2	0.0	0.1	3.4	0.9
tmp1	2.0	1.2	1.2	1.8	0.2	1.3
tmp2	27.5	14.0	9.1	5.1	3.0	11.7
tmp3	na	1.0	0.0	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>13.0</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	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>55.3%</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>24.1%</b>
Nuclear and Elementary Particle Physics, Quantum Mechanics, Relativity, Fields	26.8%	25.8%	20.5%	20.0%	29.1%	24.1%
<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>17.5%</b>
Astrophysics and Astronomy	20.8%	16.7%	19.3%	19.4%	13.5%	17.5%
<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>11.0%</b>
Theoretical Condensed Matter Physics	9.7%	7.4%	13.1%	10.6%	11.9%	10.7%
Experimental Condensed Matter Physics	0.0%	0.8%	0.5%	0.1%	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>2.2%</b>
Optics, Quantum Optics, Atoms, Molecules, Plasmas	0.5%	2.1%	2.5%	3.2%	1.7%	2.2%
<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>0.4%</b>
Statistical Physics, Soft Matter, Biological Physics, Nonlinear Dynamics	0.0%	0.0%	0.0%	0.0%	1.7%	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>26.4%</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>25.5%</b>
Fluid Mechanics	26.4%	22.3%	19.1%	25.8%	26.5%	23.7%
Technical Thermodynamics	0.1%	4.4%	3.1%	0.3%	0.2%	1.8%
Energy Process Engineering	0.0%	0.2%	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>0.8%</b>
Chemical and Thermal Process Engineering	0.0%	0.0%	0.0%	2.4%	0.7%	0.7%
Biological Process Engineering	0.1%	0.5%	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>4.7%</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>2.1%</b>
Atmospheric Science	0.9%	0.3%	2.1%	2.1%	4.3%	2.1%
<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>1.8%</b>
Geophysics	0.5%	0.8%	2.5%	1.4%	1.1%	1.4%
Geodesy, Photogrammetry, Remote Sensing, Geoinformatics, Cartography	0.3%	0.5%	0.7%	0.3%	0.0%	0.4%
<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>0.7%</b>
Geochemistry, Mineralogy and Crystallography	3.2%	0.9%	0.3%	0.2%	0.3%	0.7%
<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>0.1%</b>
Hydrogeology, Hydrology, Limnology, Urban Water Management, Water Chemistry, Integrated Water Resources Management	0.0%	0.0%	0.2%	0.2%	0.1%	0.1%
<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>
Physical Geography	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>4.1%</b>

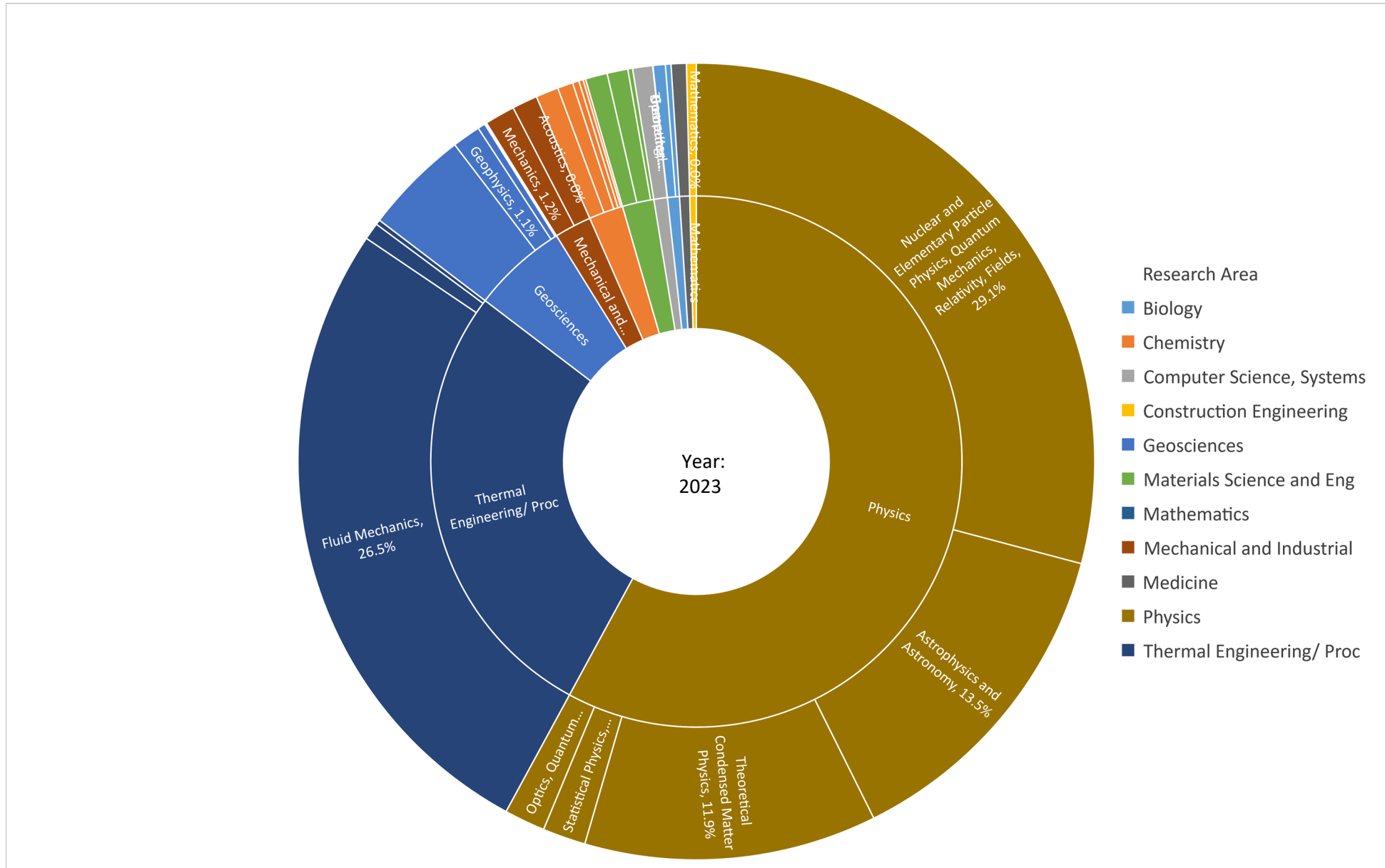






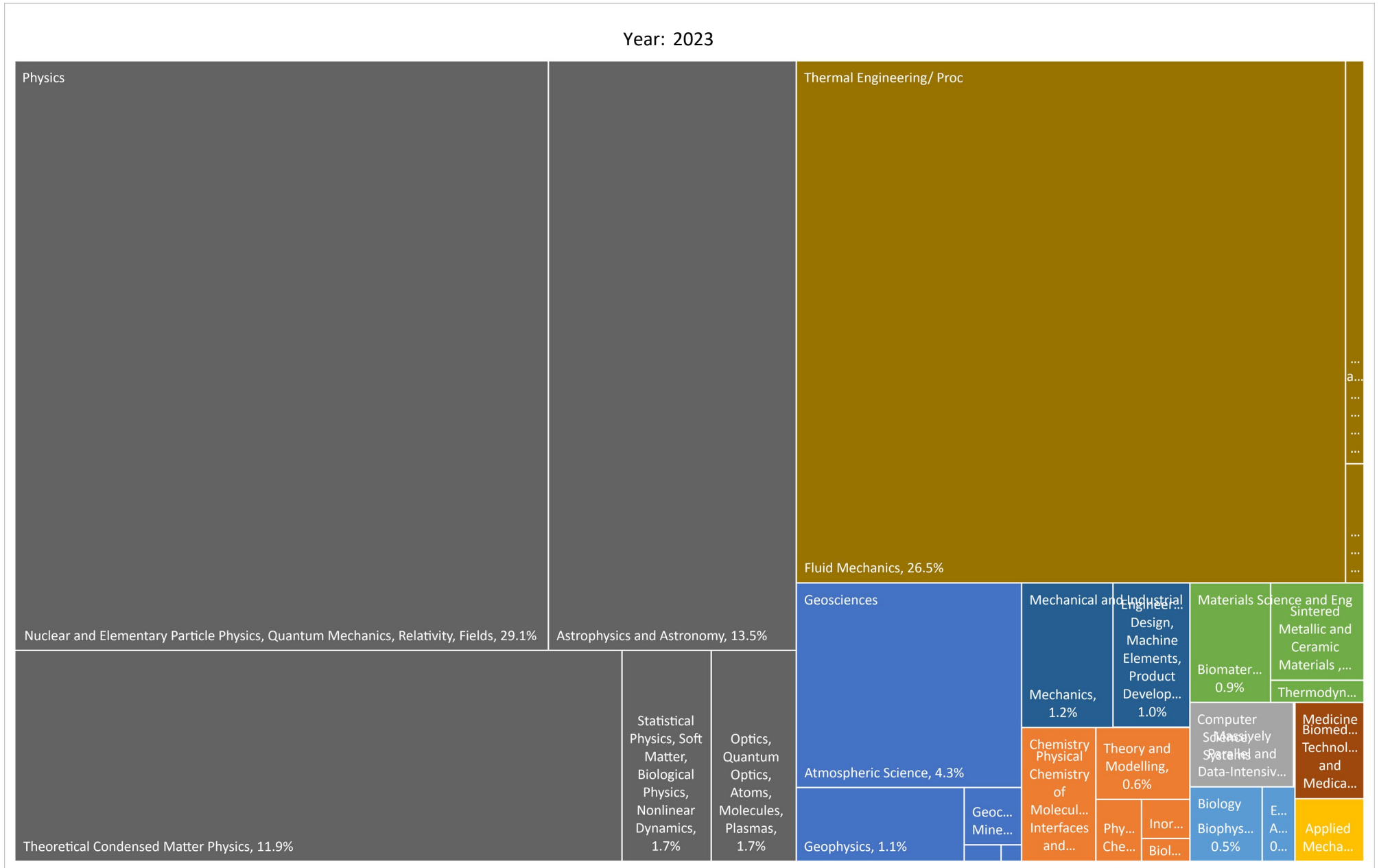
# Usage by Research Area

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



# Usage by Research Area

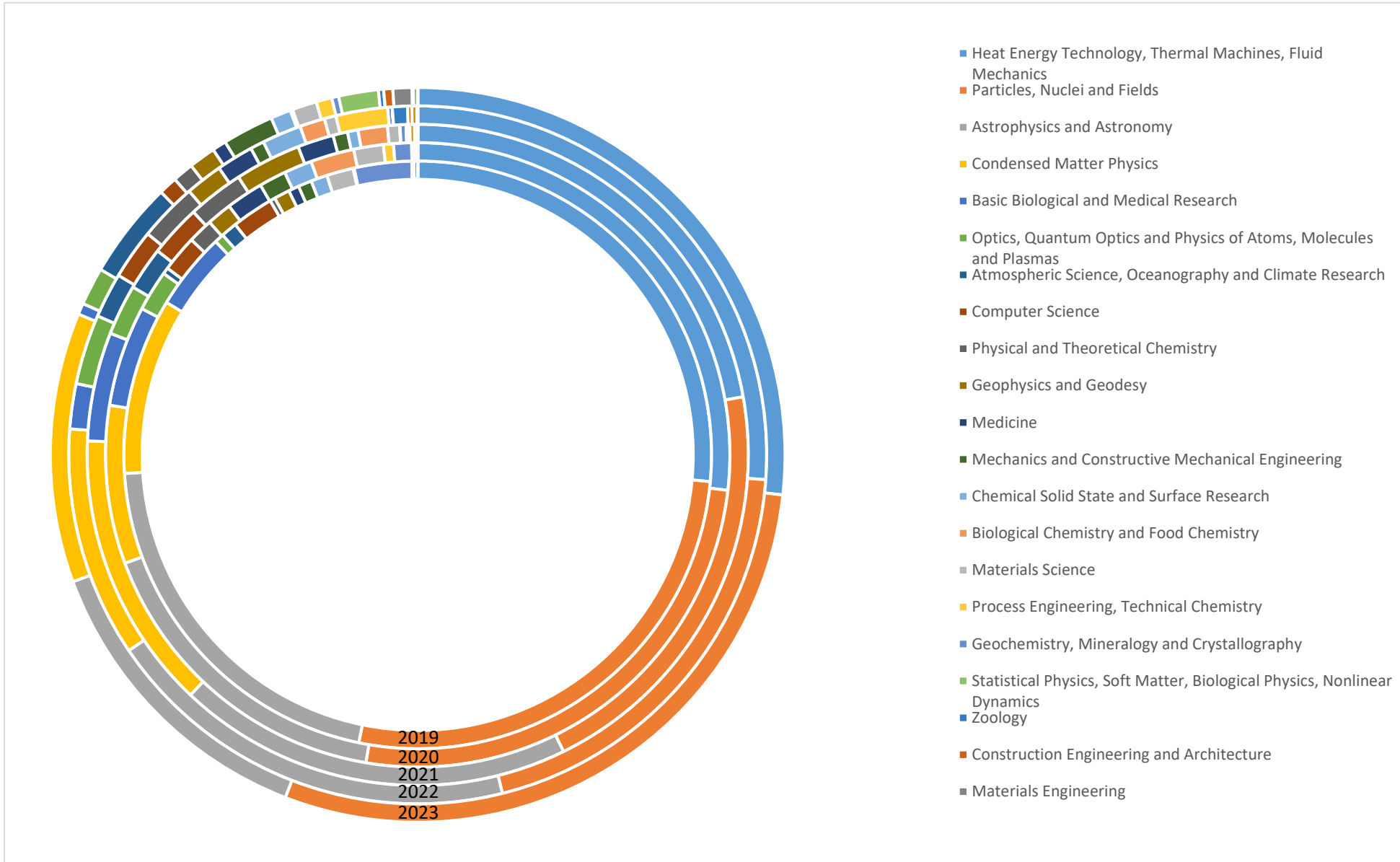
## Usage by Research Area (DFG Level 2 and 3)





# Usage by Research Area

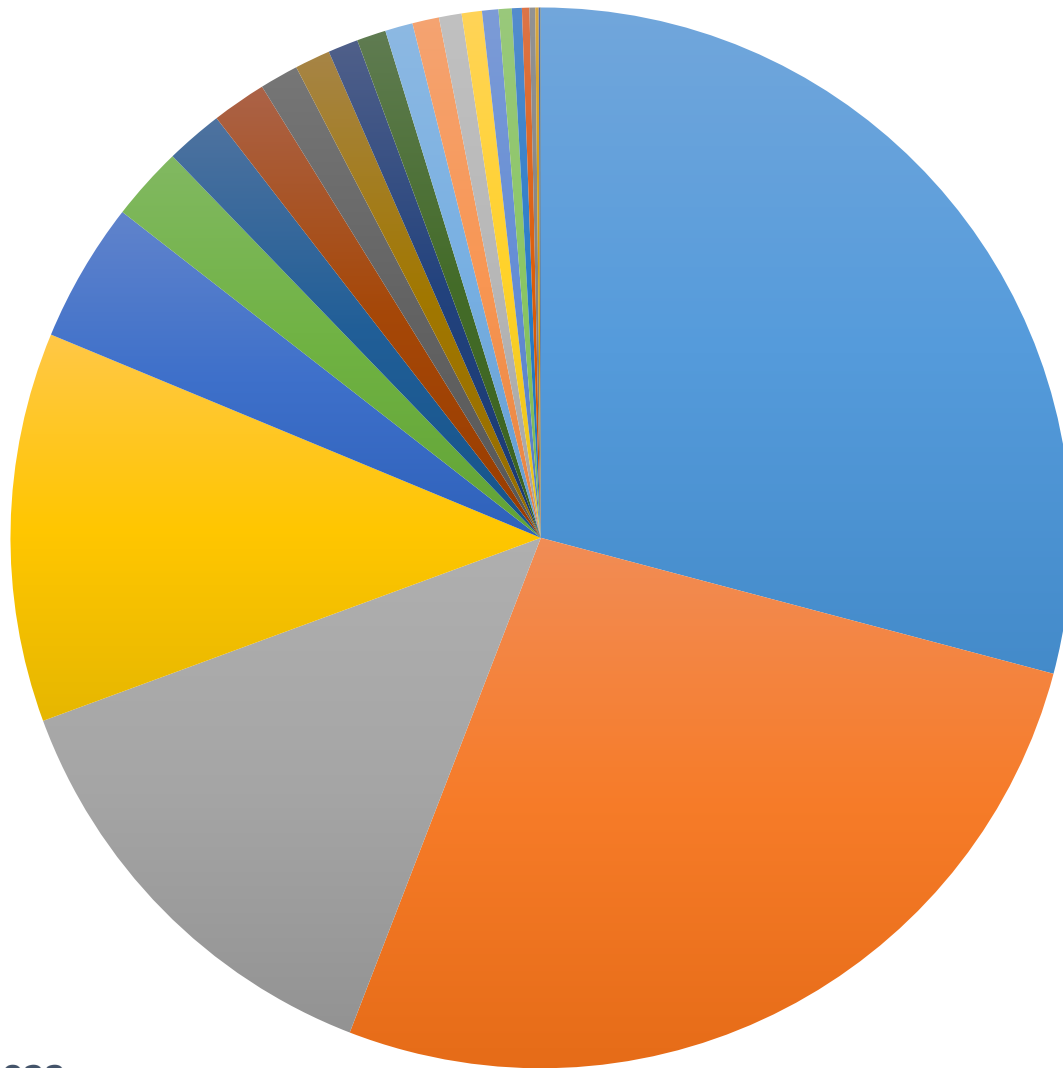
## Usage By Research Area (DFG Llevel 3)



Usage

DFG\_TOPIC\_LVL3\_DESC

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



2023

Year

