

CSN4 - Risorse di calcolo per il 2024

(a cura di L. Cosmai, M. Pepe)

Le sigle della CSN4 che fanno uso di risorse di calcolo HPC

● Lattice QCD

- LQCD123 (*F. Sanfilippo*)
- NPQCD (*M. D'Elia*)
- QCDCAT (*L. Giusti*)
- SFT (*M. Panero*)
- SIM (*M.P. Lombardo*)
- GAGRA (*M. Papinutto*)

● Cosmology and Astroparticle Physics:

- INDARK (*M. Lattanzi*)
- NEUMATT (*R. De Pietri*)
- TEONGRAV (*B. Giacomazzo*)

● Nuclear Physics:

- MONSTRE (*A. Roggero*)
- NUCSYS (*M. Viviani*)

● Standard Model Phenomenology:

- QFTATCOL (*C. Carloni Calame*)

● Physics of the Complex Systems:

- BIOPHYS (*S. Morante*)
- ENESMA (*C. Presilla*)
- FIELDTURB (*G. Boffetta*)

● Quantum Information:

- QUANTUM (*S. Montangero*)
- LINCOLN (*S. Pilati*) - NEW

● Condensed matter:

- NEMESYS (*A. Sindona*)

Risorse di calcolo al CINECA 2023 (consumi al 20/07/2023) —> MARCONI

MARCONI (A3)								
da	14-Feb-2023	a	20-July-2023	#giorni	156			
account	budget (corehours)	consumo (corehours)	consumo/budget (%)	residuo (corehours)	residuo%	#giorni	consumo linearizzato (su 12 mesi)	consumo/ (consumo linearizzato) %
INF23_biophys	570,000	112,503	19.74	457,497	80.26	156	243,616	46.18
INF23_enesma	35,000	0	0.00	35,000	100.00	156	14,959	0.00
INF23_euclid	1,000	1,440	144.00	-440	-44.00	156	427	336.92
INF23 fldturb	4,280,000	1,661,150	38.81	2,618,850	61.19	156	1,829,260	90.81
INF23_gagra	180,000	32,394	18.00	147,606	82.00	156	76,932	42.11
INF23_indark	1,070,000	320,478	29.95	749,522	70.05	156	457,315	70.08
INF23_lhc	1,000	0	0.00	1,000	100.00	156	427	0.00
INF23_lqcd123	8,350,000	3,914,176	46.88	4,435,824	53.12	156	3,568,767	109.68
INF23_lspe	1,000	1,004	100.40	-4	-0.40	156	427	234.91
INF23_monstre	1,030,000	152,101	14.77	877,899	85.23	156	440,219	34.55
INF23_nemesys	290,000	70,809	24.42	219,191	75.58	156	123,945	57.13
INF23_neumatt	3,140,000	353,146	11.25	2,786,854	88.75	156	1,342,027	26.31
INF23_npqcd	8,360,000	5,612,439	67.13	2,747,561	32.87	156	3,573,041	157.08
INF23_nucsys	250,000	177,321	70.93	72,679	29.07	156	106,849	165.95
INF23_qcdlat	17,700,000	8,292,222	46.85	9,407,778	53.15	156	7,564,932	109.61
INF23_qftatcol	1,280,000	0	0.00	1,280,000	100.00	156	547,068	0.00
INF23_quantum	215,000	0	0.00	215,000	100.00	156	91,890	0.00
INF23_sft	1,970,000	1,030,250	52.30	939,750	47.70	156	841,973	122.36
INF23_sim	735,000	707,621	96.27	27,379	3.73	156	314,137	225.26
INF23_teongrav	6,880,000	2285206	33.22	4,594,794	66.78	156	2,940,493	77.72
INF23_test	2,661,000	453,258	17.03	2,207,742	82.97	156	1,137,304	39.85
INF23_virgo	1,000	0	0.00	1,000	100.00	156	427	0.00
INF23_litebird	1,000,000	340,913	34.09	659,087	65.91	156	427,397	79.76
TOTALE	60,000,000	25,518,431	42.53	34,481,569	57.47	156	25,643,836	99.51

Risorse di calcolo al CINECA 2023 (consumi al 20/07/2023) —> MARCONI100

MARCONI100								
da	14-Feb-2023	a	20-Jul-2023	#giorni	156			
account	budget (corehours)	consumo (corehours)	consumo/budg et (%)	residuo (corehours)	residuo%	#giorni	consumo linearizzato (su 12 mesi)	consumo/ (consumo linearizzato) %
INF23_biophys_0	1,000,000	943,008	94.30	56,992	5.70	156	427,397	220.64
INF23_enesma_0	61,000	25,621	42.00	35,379	58.00	156	26,071	98.27
INF23_euclid_0	451,000	387,368	85.89	63,632	14.11	156	192,756	200.96
INF23 fldturb_0	1,000,000	1,001,927	100.19	-1,927	-0.19	156	427,397	234.43
INF23_gagra_0	1,000	8	0.80	992	99.20	156	427	1.87
INF23_indark_0	35,000	0	0.00	35,000	100.00	156	14,959	0.00
INF23_lhc_0	1,300,000	659,089	50.70	640,911	49.30	156	555,616	118.62
INF23_lqcd123_0	4,700,000	5,800,710	123.42	-1,100,710	-23.42	156	2,008,767	288.77
INF23_lspe_0	1,000	0	0.00	1,000	100.00	156	427	0.00
INF23_monstre_0	130,000	173,822	133.71	-43,822	-33.71	156	55,562	312.85
INF23_nemesys_0	130,000	123,192	94.76	6,808	5.24	156	55,562	221.72
INF23_neumatt_0	30,000	2,306	7.69	27,694	92.31	156	12,822	17.98
INF23_npqcd_0	3,300,000	2,511,399	76.10	788,601	23.90	156	1,410,411	178.06
INF23_nucsys_0	20,000	0	0.00	20,000	100.00	156	8,548	0.00
INF23_qcdlat_0	800,000	804,874	100.61	-4,874	-0.61	156	341,918	235.40
INF23_qftatcol_0	1,000	0	0.00	1,000	100.00	156	427	0.00
INF23_quantum_0	160,000	76,503	47.81	83,497	52.19	156	68,384	111.87
INF23_sft_0	130,000	131,793	101.38	-1,793	-1.38	156	55,562	237.20
INF23_sim_0	650,000	585,489	90.08	64,511	9.92	156	277,808	210.75
INF23_teongrav_0	200,000	99,947	49.97	100,053	50.03	156	85,479	116.93
INF23_test_0	819,000	715,102	87.31	103,898	12.69	156	350,038	204.29
INF23_virgo_0	1,000	3,319	331.90	-2,319	-231.90	156	427	776.56
TOTALE	14,920,000	14,045,477	94.14	874,523	5.86	156	6,376,767	220.26

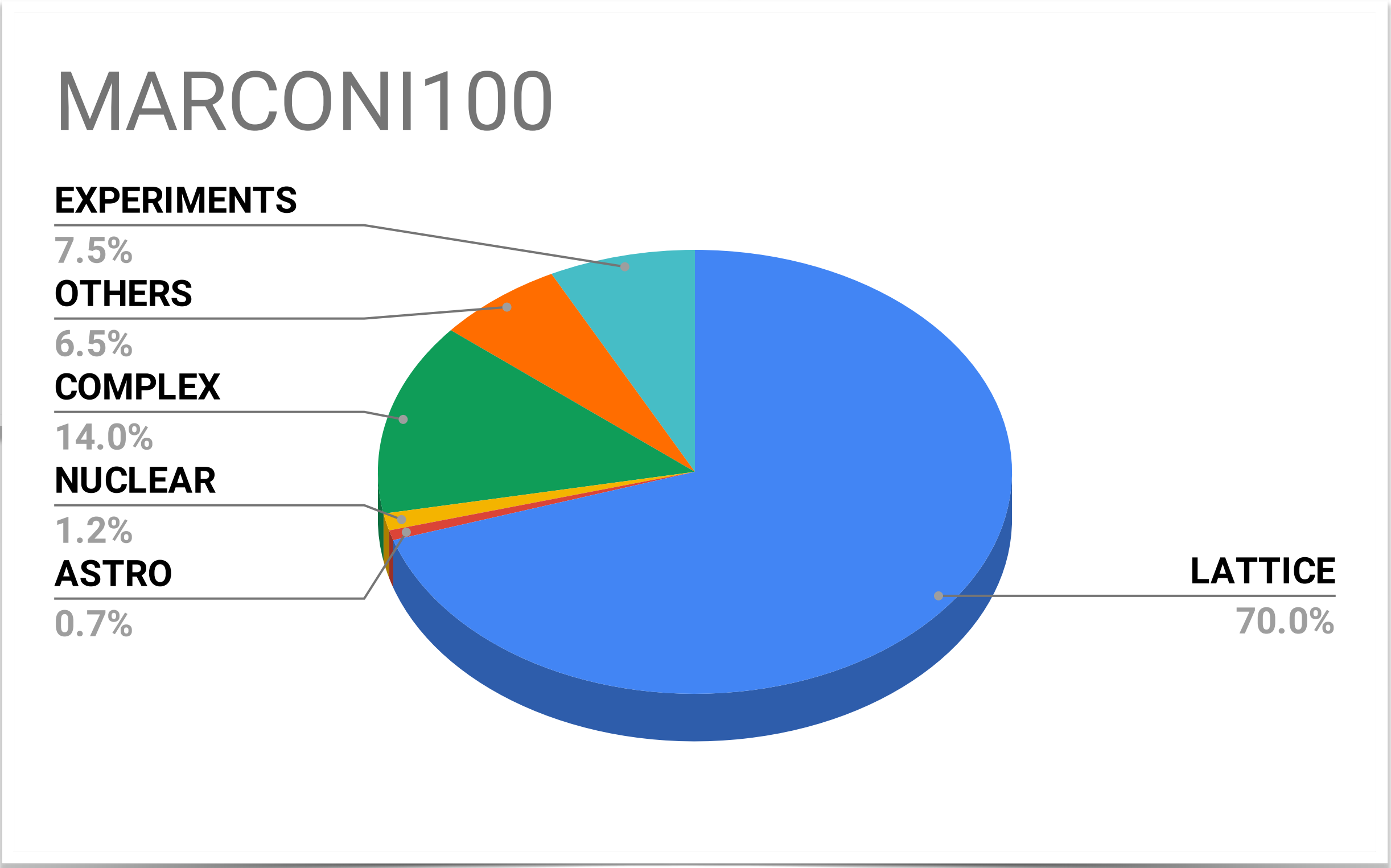
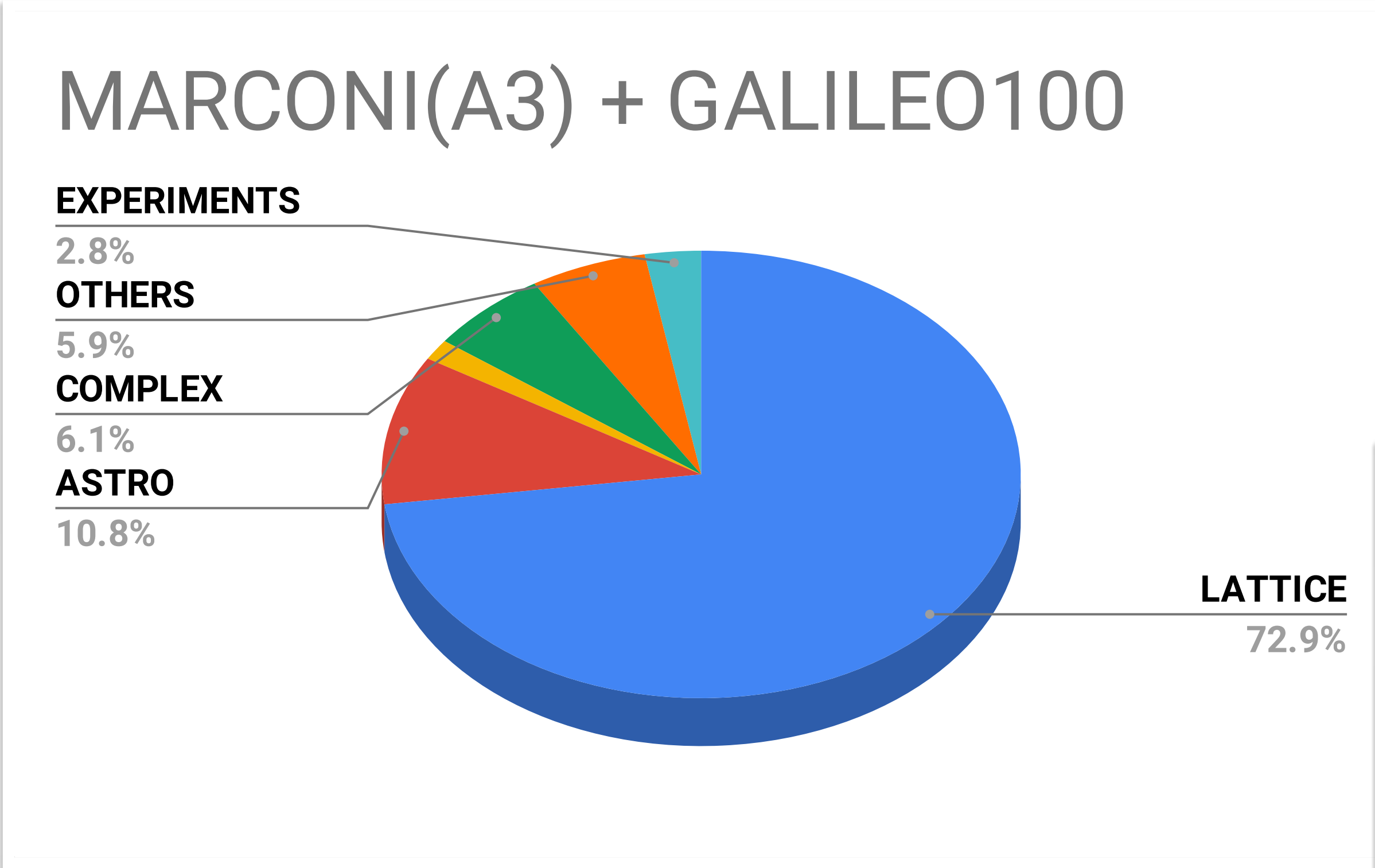
da ~Luglio 2023

LEONARDO (booster)	
account	nodehours
INF23_biophys	100,000
INF23_enesma	100,000
INF23_euclid	1,000
INF23_fieldturb	100,000
INF23_gagra	1,000
INF23_indark	75,000
INF23_lhc	260,000
INF23_lqcd123	600,000
INF23_lspe	1,000
INF23_monstre	3,000
INF23_nemesys	10,000
INF23_neumatt	1,000
INF23_npqcd	600,000
INF23_nucsys	100,000
INF23_qcdlat	400,000
INF23_qftatcol	50,000
INF23_quantum	10,000
INF23_sft	25,000
INF23_sim	75,000
INF23_teongrav	100,000
INF23_test	387,000
INF23_virgo	1,000
TOTALE	3,000,000

Risorse di calcolo al CINECA 2023 (consumi al 20/07/2023) —> GALILEO100

GALILEO100								
da	14-Feb-2023	a	20-Jul-2023	#giorni	156			
account	budget (corehours)	consumo (corehours)	consumo/bud get (%)	residuo (corehours)	residuo%	#giorni	consumo linearizzato (su 12 mesi)	consumo/ (consumo linearizzato) %
INF23_biophys_1	45,000	20,380	45.29	24,620	54.71	156	19,233	105.96
INF23_enesma_1	2,799	0	0.00	2,799	100.00	156	1,196	0.00
INF23_euclid_1	500,001	457,258	91.45	42,743	8.55	156	213,699	213.97
INF23_fldturb_1	330,000	1	0.00	329,999	100.00	156	141,041	0.00
INF23_gagra_1	14,001	0	0.00	14,001	100.00	156	5,984	0.00
INF23_indark_1	84,999	0	0.00	84,999	100.00	156	36,328	0.00
INF23_lhc_1	999	0	0.00	999	100.00	156	427	0.00
INF23_lqcd123_1	9,999	36	0.36	9,963	99.64	156	4,274	0.84
INF23_lspe_1	500,001	35,364	7.07	464,637	92.93	156	213,699	16.55
INF23_monstre_1	84,999	58,567	68.90	26,432	31.10	156	36,328	161.22
INF23_nemesys_1	22,500	7,261	32.27	15,239	67.73	156	9,616	75.51
INF23_neumatt_1	249,999	0	0.00	249,999	100.00	156	106,849	0.00
INF23_npqcd_1	650,001	670,203	103.11	-20,202	-3.11	156	277,809	241.25
INF23_nucsys_1	71,001	54,649	76.97	16,352	23.03	156	30,346	180.09
INF23_qcdlat_1	1,400,001	1,189,272	84.95	210,729	15.05	156	598,357	198.76
INF23_qftatcol_1	99,999	0	0.00	99,999	100.00	156	42,739	0.00
INF23_quantum_1	17,001	5	0.03	16,996	99.97	156	7,266	0.07
INF23_sft_1	150,000	6,699	4.47	143,301	95.53	156	64,110	10.45
INF23_sim_1	54,999	136	0.25	54,863	99.75	156	23,506	0.58
INF23_teongrav_1	540,000	220,303	40.80	319,697	59.20	156	230,795	95.45
INF23_test_1	1,170,699	1,207,581	103.15	-36,882	-3.15	156	500,354	241.35
INF23_virgo_1	999	0	0.00	999	100.00	156	427	0.00
TOTALE	5,999,997	3,927,715	65.46	2,072,282	34.54	156	2,564,382	153.16

Risorse di calcolo al CINECA 2023 (percentuale consumi al 20/07/2023)



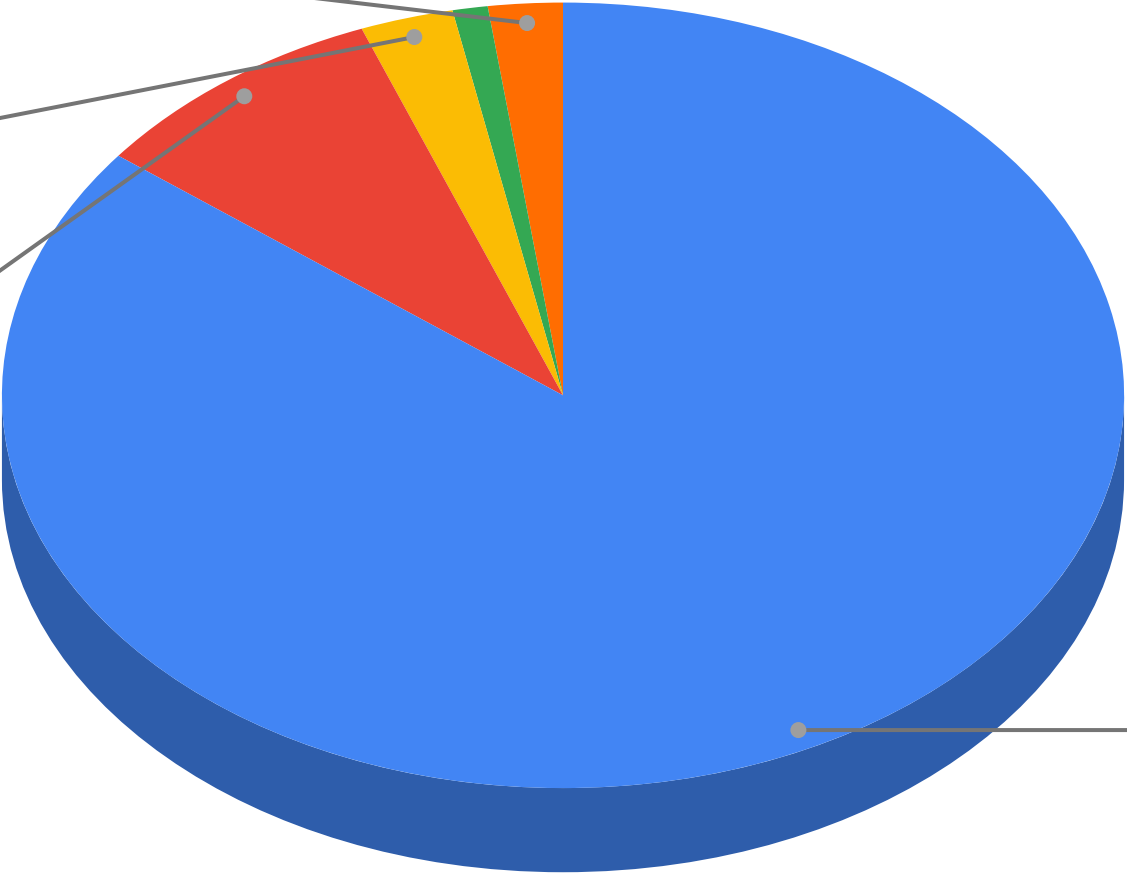
Risorse di calcolo 2024 (proposte)

	sigla	numero max processi MPI per job	connessione	CPU (corehours) RICHIESTE	CPU (corehours) PROPOSTE	possibile utilizzo di sistemi Tier1 e/o Tier2?	Tier1/Tier2 (corehours)	Cineca (corehours)	GPU (nodehours) RICHIESTE	GPU (nodehours) PROPOSTE	possibile utilizzo di sistemi Tier1 e/o Tier2?	Tier1/Tier2 (nodehours)	Cineca (nodehours)
1	BIOPHYS	1,000	Infiniband	1,000,000	600,000	NO	0	600,000	100,000	100,000	NO	0	100,000
2	ENESMA	100	Infiniband	0	10,000	NO	0	10,000	300,000	150,000	NO	0	150,000
3	FLDTURB	1,000	Infiniband	1,000,000	1,000,000	SI	100,000	900,000	100,000	100,000	SI	10,000	90,000
4	GAGRA	1,000	Infiniband	400,000	300,000	NO	0	300,000	15,000	15,000	SI	0	15,000
5	INDARK	100	Farm	2,000,000	1,200,000	NO	500,000	700,000	200,000	175,000	NO	0	175,000
6	LINCOLN	1,000	Farm	750,000	400,000	NO	200,000	200,000	7,500	7,500	NO	0	7,500
7	LQCD123	>5000	Infiniband	25,000,000	20,000,000	NO	0	20,000,000	700,000	600,000	NO	0	600,000
8	MONSTRE	1,000	Infiniband	2,600,000	2,000,000	NO	0	2,000,000	3,000	3,000	NO	0	3,000
9	NEMESYS	1,000	Infiniband	3,500,000	500,000	SI	100,000	400,000	250,000	100,000	SI	10,000	90,000
10	NEUMATT	5,000	Infiniband	5,000,000	2,500,000	NO	0	2,500,000	1,024	1,000	NO	0	1,000
11	NPQCD	>5000	Infiniband	45,000,000	40,000,000	SI	2,500,000	37,500,000	700,000	600,000	SI	30,000	570,000
12	NUCSYS	1,000	Infiniband	2,200,000	2,000,000	NO	0	2,000,000	200,000	100,000	NO	0	100,000
13	QCDLAT	>5000	Infiniband	67,500,000	63,500,000	SI	10,000,000	53,500,000	500,000	470,000	SI	23,500	446,500
14	QFTATCOL	5,000	Farm	3,600,000	2,000,000	SI	1,000,000	1,000,000	250,000	200,000	NO	0	200,000
15	QUANTUM	1,000	Infiniband	500,000	500,000	NO	100,000	400,000	10,000	10,000	NO	0	10,000
16	SFT	5,000	Farm	2,000,000	1,500,000	SI	500,000	1,000,000	30,000	30,000	SI	0	30,000
17	SIM	1,000	Infiniband	2,000,000	2,000,000	NO	0	2,000,000	200,000	125,000	NO	0	125,000
18	TEONGRAV	1,000	Infiniband	13,000,000	10,000,000	NO	0	10,000,000	130,000	100,000	SI	0	100,000
TOTALE				177,050,000	150,010,000		15,000,000	135,010,000	3,696,524	2,886,500		73,500	2,813,000

Risorse di calcolo 2024 (proposte)

CPU

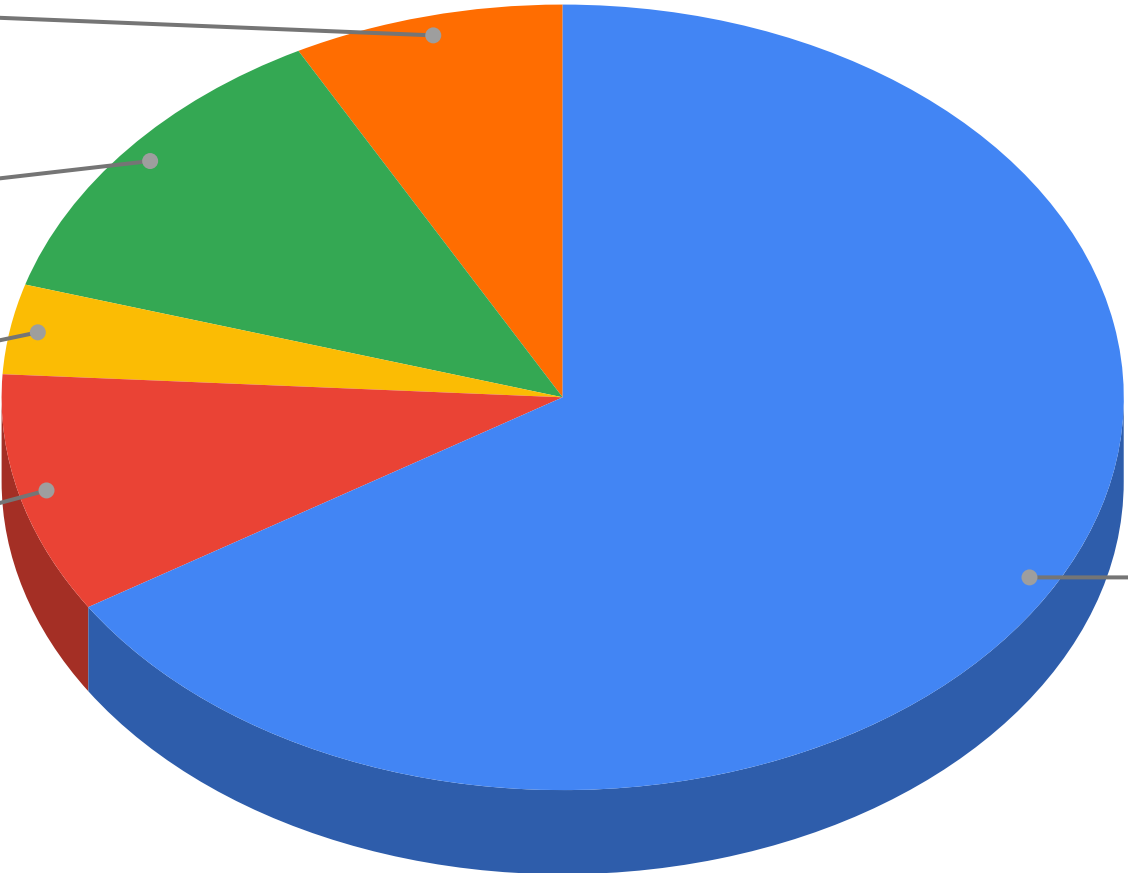
OTHERS
2.1%
NUCLEAR
2.7%
ASTRO
8.7%



LATTICE
85.4%

GPU

OTHERS
7.8%
COMPLEX
12.6%
NUCLEAR
3.7%
ASTRO
9.9%



LATTICE
66.0%

Risorse di calcolo 2024 (storage su disco e su nastro)

sigla	DISCO (TB)	NASTRO (TB)
BIOPHYS	100	0
ENESMA	50	0
FLDTURB	100	300
GAGRA	2	10
INDARK	200	100
LINCOLN	1	0
LQCD123	350	0
MONSTRE	50	10
NEMESYS	10	10
NEUMATT	20	0
NPQCD	100	300
NUCSYS	10	0
QCDLAT	0	500
QFTATCOL	25	0
QUANTUM	5	0
SFT	4	0
SIM	200	200
TEONGRAV	100	0
Totale	1327	1430

