PACS10 and PACS10$_c$ configurations

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PACS Collaboration Members

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PACS10 project since 2016

2+1(+1) flavor QCD on $(10\text{fm})^4$ volume at physical point

Machines

Oakforest-PACS (Tsukuba/Tokyo):	25PFLOPS Shutdown in 2022
Fugaku (RIKEN-CCS):	540PFLOPS Public use in 2021

Actions

Iwasaki gauge action

6-stout-smeared nonpertubative $\mathcal{O}(a)$-improved Wilson action

Simulation parameters in $N_f = 2 + 1$ (generation finished)

M_π, M_K tuned to be very close to physical ones

		PACS10 configs.		
	L64	PACS10/L128	PACS10/L160	PACS10/L256
$L^3 \cdot T$	64^4	128^4	160^4	256^4
a[fm]	0.085	0.085	0.064	0.041
L[fm]	5.5	10.9	10.2	10.5

Hadron specrum, HVP muon $g-2$, proton decay,

$K_{\ell 3}$ form factor, meson form factor, nulceon structure

Simulation parameters in $N_f = 2 + 1 + 1$

M_π, M_K, $M_{J/\Psi}$ tuned to be very close to physical ones

	PACS10$_c$ configs.		
	PACS10$_c$/L128	PACS10$_c$/L168	PACS10$_c$/L256
$L^3 \cdot T$	128^4	168^4	256^4
a[fm]	0.085	~0.062	~0.041
L[fm]	10.7	~10.4	~10.5
status	finished	on going	tuning

- Your data management strategy

  Plan to be public

  L64 $\rightarrow$ PACS10/[L128,L160,L256] $\rightarrow$ PACS10$_c$/[L128,L168,L256]

  Schedule has not been determined yet.

- Your usage or access policy for members outside your collaboration

  Should properly quote the specified references

- Your plans to upload files to ILDG or elsewhere, including the estimated number of configs, ensembles and storage volume

  Plan to use ILDG through JLDG, roughly 100–200TB storage

  64^4 : more than 200 configs

  PACS10/[L128,L160,L256], PACS10$_c$/[L128,L168,L256] : 20–40 configs

- Suggestions for ILDG, including, if applicable, relating to any recent experience uploading configurations

  None