# Site Report on Physics Plan from Japan

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# Summary table of available configurations

| flavors | fermion/ gluon action | machine collaboration | a(fm) | lattice | pi/rho | approx #configs | status |
|---|---|---|---|---|---|---|---|
| 2 | Wioson-clover/ Iwasaki (2001) | CP-PACS/Tsukuba CP-PACS | 0.20 | 12^3x24 | 0.8-0.55 | 1000x4 | available |
| | | | 0.15 | 16^3x32 | 0.8-0.55 | 1000x4 | |
| | | | 0.10 | 24^3x48 | 0.8-0.55 | 800x4 | |
| 2 | Wilson-clover/ Plaquette (2002) | SR8000/KEK JLQCD | 0.10 | 20^3x40 | 0.8-0.6 | 1200x5 | in preparation |
| 2+1 | Wilson-clover/ Iwasaki (2006) | ES/JAMSTEC SR8000/KEK CP-PACS/Tsukuba CP-PACS+JLQCD | 0.12 | 16^3x32 | 0.8-0.6 | 800x5x2 | available |
| | | | 0.10 | 20^3x40 | 0.8-0.6 | 800x5x2 | |
| | | | 0.07 | 28^3x56 | 0.8-0.6 | 600x5x2 | |
| 2 | overlap/ Iwasaki (2006) | BG/L/KEK JLQCD | 0.12 | 16^3x32 | 0.66-0.34 | O(500)x6 | in preparation |
| 2+1 | Wilson-clover/ Iwasaki (2008) | PACS-CS/Tsukuba PACS-CS | 0.09 | 32^3x64 | 0.6-0.2 | ≈2600 | "available" (NEW) |

# PACS-CS: status and plan

2+1 flavor QCD

- Clover with NP csw and Iwasaki
- MPDDHMC for ud and UV-filtered PHMC for s

Status

- Physical pt. simulation on 64^4 at beta=1.9(a~0.09fm)
- Preparatory runs at other beta

Plan

- Physical pt. simulations on (6fm)^3 box with a→0
- Configs. with 32^3x64 at beta=1.9 PRD79(2009)034503

  “available”: ILDG format and metadata doc. are ready

  waiting for the system upgrade of JLDG

  web access is allowed, if you request

# JLQCD: status and plan

Overlap fermion/Iwasaki gauge + topologiy fixing term

- 2 flavors: $16^3 \times 32$, $a$~0.12fm, $m_q > m_s^{phys}/6$ ($6\ m_q$)
  - 10k trjs ready at each quark mass, $Q$=0
  - Algorithm and spectrum papers have published
  - Now in preparation for ILDG
- 2+1 flavors: $16^3 \times 48$, $a$~0.11fm, $m_q > m_s^{phys}/6$ ($5m_q \times 2m_s$)
  - 2500 trjs ready at each ($m_q$, $m_s$), $Q$=0
  - Algorithm and spectrum papers are in preparation
- 2+1 flavors: $24^3 \times 48$, $a$~0.11fm, $m_q \sim m_s^{phys}/6$ ($2\ m_q \times 1m_s$)
  - In progress