**Condensates in Lattice Landau Gauge QCD** SADATAKA FURUI,
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sunomiya University, Faculty of Information Science — The running coupling and
the Kugo-Ojima parameter c of unquenched lattice Landau gauge are measured and
compared with the continuum theory. We used gauge configurations of JLQCD/CP-
PACS with Wilson fermion and those of Columbia University and MILC with Kogut-
Susskind fermions. Although there exists dependence on the polarization due to
asymmetry of the lattice, it is observed that c is consistent with 1. Presence of in-
frared fixed point of $\alpha_0 \sim 2-2.5$ irrespective of the fermion actions in the continuum
and in the chiral limit is suggested. In comparison with pQCD results in $\widetilde{MOM}$
scheme up to the 4-loop level, the MILC data of $\alpha_s$ in the region $1 \sim 3\text{GeV}$ exhibit
presence of dimension 2 condensates and dimension 4 condensates with sign opposite
to the dimension 2 condensates. We observed that Zwanzigers horizon condition is
satisfied within errors. The dimension 2 condensates is interpreted as the square
norm of the gauge field which is related to the Zwanziger's horizon condition and
the dimension 4 condensates is interpreted as the quark condensates.

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