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**Photon Physics at LHC-ALICE** TAKUMA HORAGUCHI, University of Tsukuba and JSPS, ALICE COLLABORATION — The “A Large Ion Collider Experiment” (ALICE) is to study physics of strongly interacting matter and the quark-gluon plasma (QGP) in heavy ion collisions at Large Hadron Collider (LHC). Production of deconfined partonic phase has been basically proven at the BNL-RHIC, via high  $p_t$  jet suppression and a constituent quark number scaling in collective motions of hadrons. However, there are topics which should be further investigated, e.g. quantitative understanding thermal properties of the deconfined partonic phase. A unified picture is awaited at the LHC, especially via studies of thermal radiations. At BNL-RHIC, the excess of direct photon yield above binary scaled NLO pQCD in Au+Au collisions is observed with virtual photon measurement via internal conversion. Thermal properties at LHC is expected to be emphasized with the highest energy heavy ion collisions in the world. In this talk, photon physics at LHC-ALICE will be discussed, with an emphasis on thermal radiations with ALICE detector via comparison with various methods of photon measurement in pp and heavy ion collisions.

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