ABSTRACT FINAL ID: V54A-03;

TITLE: On the Possible Relation of the Louisville Hotspot and Ontong Java Plateau from Integrated Ocean Drilling Program Expedition 330 Results *(Invited)*

SESSION TYPE: Oral

SESSION TITLE: V54A. Origin, Structure, and History of Oceanic Plateaus II

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ABSTRACT BODY: It has been hypothesized that the Ontong Java Plateau formed from the plume head of the Louisville mantle plume around 120 Ma. Integrated Ocean Drilling Program (IODP) Expedition 330 drilled five different guyots in the Louisville Seamount Trail ranging in age between 80 and 50 Ma. Paleolatitude estimates, 40Ar/39Ar radiometric ages and geochemical data collected during Expedition 330 will provide the ultimate test of whether the oldest Louisville seamounts were formed close to the 18-28°S (with an average of 24±2°) paleolatitude determined from basalt drilled on the Ontong Java Plateau during ODP Leg 192 and whether this Large Igneous Province (LIP) was genetically linked to the Louisville hotspot. If so, this would allow for the possibility that indeed the preceding plume head of the Louisville mantle upwelling caused the massive LIP volcanism forming the Ontong Java Plateau around 120 Ma. The outcome of such a test is of fundamental importance in our understanding of LIP and hotspot formation and lies at the heart of the mantle plume debate.

KEYWORDS: [1115] GEOCHRONOLOGY / Radioisotope geochronology, [8137] TECTONOPHYSICS / Hotspots, large igneous provinces, and flood basalt volcanism, [1525] GEOMAGNETISM AND PALEOMAGNETISM / Paleomagnetism applied to tectonics: regional, global, [1033] GEOCHEMISTRY / Intra-plate processes.

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