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Analysis method for double- Λ hypernuclear events ASUKA SAWA, KAZUMA NAKAZAWA, Gifu University, HITOSHI TAKAHASHI, KEK, E373 COLLABORATION — To study hyperon-hyperon interaction, the experiment E373 was carried out at KEK-PS. Ξ^- hyperons are produced via the $p(K^-, K^+)\Xi^-$ reaction, and double- Λ hypernucleus were produced at a Ξ^- stopping point as a fragment in the nuclear emulsion. Double- Λ hypernucleus sequentially decays via non-mesonic or mesonic weak interaction. So that, double- Λ hypernuclear event has three vertices. Until now, we successfully found 7 double- Λ hypernuclear events. The recoiled hyperfragments had only few μm track lengths in the emulsion, then we need the high precision measurement. In this paper, we report detailed method of analysis and those results for two double- Λ hypernuclear events which were successfully reconstructed as those ones. To reconstruct events we took pictures all tracks related the event every $0.1 \mu\text{m}$ depth, and obtained the brightness and position information. Using central values of brightness along the tracks, straight-line fitting has been made. Thus, production and decay vertices have been measured as intersection of the lines. According to the above analysis, one event was found to be as a ${}_{\Lambda\Lambda}^{11}\text{Be}$, and another one was uniquely identified as a ${}_{\Lambda\Lambda}^6\text{He}$.

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