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**Detailed study of beta-decay schemes in Bi-214 and Po-214 with GRETINA**[1] SHAOFEI ZHU, ELIZABETH MCCUTCHAN, ALEJANDRO SONZOGNI, ANDREA MATTERA, NNDC, Brookhaven National Laboratory, JING LI, DIRK WEISSHAAR, NSCL, Michigan State University — Bi-214 and Po-214 are part of the decay chain of Ra-226, which is one of the radioisotopes discovered in the late 1800s. The studies of their decay properties go back to the early days of nuclear physics. However, despite the detailed knowledge on the energies and intensities of the gamma radiations emitted in the decay of Ra-226, the beta-decay level schemes in Bi-214 and Po-214 are still not well established. Specifically, only about 20% of the levels have their spin and parity assigned with confidence, and more than 30 gamma rays are not able to be placed in the level schemes. This unsatisfactory situation is a result of the equipment used for the studies which were not sufficient for measuring the subtle properties of observed gamma rays. A measurement was performed at NSCL at Michigan State University with a 1-micro-Ci Ra-226 source in the target position of the GRETINA array. The high spatial resolution of GRETINA will not only allow an angular correlation measurement to high precision, it will also permit the measurement of the linear polarization of gamma rays of interest. The decay schemes of Bi-214 and Po-214 will be presented with more complete level schemes including confident spin and parity assignments.

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