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St. George detector simulation to identify source of contaminant nuclides[1] ANGEL GARCIA-SIMENTAL, JERRY HINNEFELD, Indiana University South Bend, SHANE MOYLAN, MANOEL COUDER, University of Notre Dame — The St. George recoil mass separator at the University of Notre Dame is used to measure cross sections of astrophysically important alpha-capture reactions. The St. George detection system, which uses measurements of energy and time-of-flight to identify reaction products and residual beam particles reaching the end of St. George, also detects other nuclides. Possible sources of these nuclides are contamination in the recirculated helium used as a gas jet target or contaminant beams from the accelerator ion source itself. A GEANT4 simulation of the St. George detector system is being used to determine the source of the detected contaminants, as well as other artifacts in the time-of-flight vs. energy plots.

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