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Alignment Sensitivity Study of the St. ANA Beam Line MICHELLE GERVAIS, Univ of Wisconsin, Eau Claire, MANOEL COUDER[1], HYO SOON JUNG[2], KIANA SETOODEHNIA[3], University of Notre Dame — The St. ANA (STable Accelerator for Nuclear Astrophysics) accelerator is being prepared for use with the St. George recoil mass separator. The accelerator is in working condition for use in direct kinematic experiments but the St. George separator works with inverse kinematics and requires a highly controlled beam restricted by severe position and divergence parameters that are not achieved at the present time. A systematic sensitivity study was conducted using a simulation of the beam line in order to assess the impact of a misalignment in each optical element or in the beam itself. Tests were done with the beam to analyze how the beam behaves at various points in the line and to compare this data with simulation results to determine possible causes of misalignment. The results of these tests and simulations are that the beam characteristics are now better understood and the possible causes of the limitations have been narrowed down.

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