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Automated Gas Distribution System ALLEN STARKE, Florida A&M University, HENRY CLARK, Texas A&M University — The cyclotron of Texas A&M University is one of the few and prized cyclotrons in the country. Behind the scenes of the cyclotron is a confusing, and dangerous setup of the ion sources that supplies the cyclotron with particles for acceleration. To use this machine there is a time consuming, and even wasteful step by step process of switching gases, purging, and other important features that must be done manually to keep the system functioning properly, while also trying to maintain the safety of the working environment. Developing a new gas distribution system to the ion source prevents many of the problems generated by the older manually setup process. This developed system can be controlled manually in an easier fashion than before, but like most of the technology and machines in the cyclotron now, is mainly operated based on software programming developed through graphical coding environment Labview. The automated gas distribution system provides multi-ports for a selection of different gases to decrease the amount of gas wasted through switching gases, and a port for the vacuum to decrease the amount of time spent purging the manifold. The Labview software makes the operation of the cyclotron and ion sources easier, and safer for anyone to use.

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