Dear Editor

I am pleased to submit my original research paper, “Automatic Detection of Particles in Cloud Chambers” for consideration in the *Journal of Chemical Education*. As a high school student, it is very exciting to conduct and hopefully publish real research.

In this paper, I present a novel algorithm for detecting subatomic particles in cloud chamber. A cloud chamber is an inexpensive and accessible subatomic particle detector; its main drawback is the inability to automatically detect particle events, instead requiring careful watching. By analyzing video from the cloud chamber, I was able to successfully automate this process.

The results of this paper should allow educators and researchers alike to make better use of this wonderfully simple particle detector. For example, a high school teacher would be able to provide a hands-on experience for a class learning about nuclear physics or nuclear chemistry.

Thank you for considering my paper.

Sincerely,

Zachary Sussman

Saint Andrew’s School