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Astronomy Education using the Web and a Computer Algebra System K.M. FLURCHICK, North Carolina A&T State University, ROGER B. CULVER, Colorado State University, BEN GRIEGO, North Carolina A&T State University — The combination of a web server and a Computer Algebra System to provide students the ability to explore and investigate astronomical concepts presented in a class can help student understanding. This combination of technologies provides a framework to extend the classroom experience with independent student exploration. In this presentation we report on the development of this web based material and some initial results of students making use of the computational tools using webMathematicaTM. The material developed allow the student to analyze and investigate a variety of astronomical phenomena, including topics such as the Runge-Lenz vector, descriptions of the orbits of some of the exo-planets, Bode' law and other topics related to celestial mechanics. The server based Computer Algebra System system allows for computations without installing software on the student's computer but provides a powerful environment to explore the various concepts. The current system is installed at North Carolina A&T State University and has been used in several undergraduate classes.

K. M. Flurchick
North Carolina A&T State University

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