

Abstract Submitted  
for the OSS07 Meeting of  
The American Physical Society

**Physical Analysis of the Drag and Magnus Coefficients of the Topspin Tennis Ball** ELIZABETH SMITH, CRAIG HOWALD, Marietta College  
— We experimentally determined the drag and Magnus coefficients of a topspin tennis ball using video analysis. Three video cameras were used to record the initial spin, projectile motion, and final spin of the ball. From these recordings the initial velocity, initial spin, final spin, horizontal acceleration, vertical acceleration, x position, and y positions of the ball were extracted. The coefficient of drag was calculated to be  $C_D=0.6104 \pm 0.06187$  and the Magnus coefficient was calculated to be  $C_M=0.6576 \pm 0.08767$ .

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Date submitted: 13 Apr 2007

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