

Abstract Submitted  
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**Vortex rings from *Sphagnum* moss capsules** DWIGHT WHITAKER, SAM STRASSMAN, JUNG CHA, EMILY CHANG, XINYI GUO, Pomona College, JOAN EDWARDS, Williams College — The capsules of *Sphagnum* moss use vortex rings to disperse spores to suitable habitats many kilometers away. Vortex rings are created by the sudden release of pressurized air when the capsule ruptures, and are an efficient way to carry the small spores with low terminal velocities to heights where they can be carried by turbulent wind currents. We will present our computational model of these explosions, which are carried out using a 2-D large eddy simulation (LES) on FLUENT. Our simulations can reproduce the observed motion of the spore clouds observed from moss capsules with high-speed videos, and we will discuss the roles of bursting pressure, cap mass, and capsule morphology on the formation and quality of vortex rings created by this plant.

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