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A Minimal Model for Conical Splash Cups Using Conformal Mapping AIDAN SCHUMANN, University of Puget Sound — While most flowers use animals or wind to distribute seeds, splash-cup plants accelerate rain drops to ballistically fling their seeds through the air. Most splash cups have a conical shape—much like a cocktail glass—which, upon being hit by a rain drop, channels the water to send it out the other side at increased speeds. We present a minimal model to understand the effects of the conical geometry on the acceleration of the rain drop. We employ an Euler fluid with a conformal mapping to find the velocity field within the conical geometry. Our results imply that the primary effect of a steeper cup angle—outside of changing the launch angle—is to make the impact site effectively closer to the center of the cup.

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