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Granular Erosion of Pebbles ADAM ROTH, DOUGLAS DURIAN, University of Pennsylvania — Flowing grains are strongly abrasive, and cause erosion both of themselves and their surroundings. In a geophysical setting, the erosion of pebbles has traditionally been quantified by global measures such as aspect ratio. Recently we have focused on curvature, and its distribution around the contour, as a local measure more directly related to the microscopic action of erosion. Here we apply this method to linoleum shapes, eroded by rotation in an abrasive grit. Several shape parameters are measured at different stages in the erosion process, including the curvature distribution. A simple model of erosion is developed, and its predictions are compared to the data. The results are in reasonable agreement, and could be useful for understanding natural erosion processes.

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