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Granular compaction under confinement NATHAN MUEGGENBURG, Lake Forest College — We report on experiments that explore the impact of confinement on a compacting granular system. When a granular pack is subjected to successive vertical vibrations it undergoes a slow compaction process as individual grains rearrange and pack more closely together. We control the position and applied force of a confining boundary at the top surface of the granular system during these vibrations. This confinement limits the amount of dilation that occurs during the vibrations and significantly reduces the rate of compaction in comparison to the same system with a free top surface.

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