

Description of Additional Supplementary Files

Supplementary Movie 1

This animation shows a single unit cell of the magneto-mechanical array during the pumping cycle from 0 to 2π . The two resonators in the unit cell are marked as Site A and Site B. Angular rotation of the modulation shaft induces on-site potential modulation (OPM) via permanent magnets (shown as blue and red disks), as well as coupling modulation through the off-axis high-permeability metal alloy sheet (shown in green).