

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: Variation of OD singularity array field structure with changes in incident wavelength, linearly scaled (top) and logarithmically scaled (bottom). Trap positions are indicated with crosses and vanish when 3D confinement is lost.

File Name: Supplementary Movie 2

Description: Variation of OD singularity array field structure with changes in incident beam tilt on the metasurface, linearly scaled (top) and logarithmically scaled (bottom). Trap positions are indicated with crosses and vanish when 3D confinement is lost.