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Steering and multiplexing subwavelength plasmon beams¹ VITALII VLASKO-VLASOV, MSD, Argonne National Laboratory, ALEXANDRA IMRE, MSD and CNM, Argonne National Laboratory, JOHN PEARSON, JON HILLER, ULRICH WELP, MSD, Argonne National Laboratory — Arc shaped nanoslits in thin silver films are used as sources and lenses for generating sub-wavelength plasmon spots with high optical near-fields. We introduce a continuous phase shift along the nanoslits to achieve steering of the plasmon focus spot. It is experimentally shown that such a phase control allows to move the plasmon focus by micrometers with a nanometer precision and to launch it on separate 250 nm wide silver nanowires placed in the focal plane. Our nanostructures demonstrating scanning and multiplexing functionality show a feasibility of the nanoscale manipulation with optical fields.

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