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Atom trapping with a thin magnetic film PATRICK MEDLEY, MICAH BOYD, GRETCHEN CAMPBELL, JONGCHUL MUN, ERIK STREED, DAVE PRITCHARD, WOLFGANG KETTERLE, MIT — We have created a ^{87}Rb Bose-Einstein condensate in a magnetic trapping potential produced by a hard disk platter written with a periodic pattern. Cold atoms were loaded from an optical dipole trap and then cooled to BEC on the surface with radiofrequency evaporation. Breakup of the atomic cloud due to imperfections in the magnetic structure was observed at distances closer than $40\ \mu\text{m}$ from the surface. Attempts to use the disk as an atom mirror showed dispersive effects after reflection.

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