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Atom trapping with a thin magnetic film MICAH BOYD, GRETCHEN CAMPBELL, JONCHUL MUN, ERIK W. STREED, AARON E. LEANHARDT, DAVID E. PRITCHARD, WOLFGANG KETTERLE, MIT — We have demonstrated trapping of neutral atoms using magnetic fields produced by a thin magnetic film. The film was magnetized in alternating north/south stripes with a 10 μm period. The magnetizable surface used was a hard disk platter provided by Hitachi Global Storage Technologies. Tube shaped traps were created with an additional radial bias field, and the traps were loaded with atoms from a ^{87}Rb BEC. Radial trap frequencies of up to 20 kHz were observed. Recent results may include imaging of the individual trap sites as well as experiments with the surface as an atomic mirror.

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