1067-44-192   **Sigurdur Helgason*** (`helgason@mit.edu`), MA. *A support theorem for the horocycle transform on a hyperbolic space.*

On a noncompact symmetric space S there are two natural Radon transforms, the X ray transform and the horocycle transform. Both have support theorems relative to a fixed ball in S. If S has rank one the interior of a horocycle H is well defined. If H is a fixed horocycle (with S of rank one) the support theorem holds for the X-ray transform relative to H. If S is hyperbolic space we prove a similar support theorem for the horocycls transform relative to H. (Received July 29, 2010)