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**Sigurdur Helgason\*** ([helgason@mit.edu](mailto:helgason@mit.edu)), Department of Mathematics, MIT, 77 Massachusetts Avenue, Cambridge, MA 02139. *An Inversion Formula for the X-ray Transform on a Compact Symmetric Space.*

The X-ray transform on a compact symmetric space  $M$  is here inverted by means of an explicit inversion formula. The proof uses the conjugacy of the minimal closed geodesics in  $M$  and of the maximally curved totally geodesic spheres in  $M$ , proved in Math. Ann. 165(1966), 309-317. (Submitted to Journal of Lie Theory). (Received September 01, 2006)