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P. Sawyer* (sawyer@cs.laurentian.ca), Department of Mathematics and Comp. Science, Laurentian University, Ramsey Lake Road, Sudbury, Ontario P3E 2C6, Canada. *The heat kernel on the symmetric space $\mathbf{SL}(n, \mathbf{F})/\mathbf{SU}(n, \mathbf{F})$.*

In this talk, we give a unified treatment of the computation of the heat kernel on the symmetric spaces associated with the root system A_{n-1} . To this end, we find an expression for the inverse of the Abel transform, a transform which, for symmetric spaces of noncompact type, plays a role similar to that of the Fourier transform for Euclidean spaces. (Received February 14, 2006)