1125-43-694 **Fulton B Gonzalez*** (fulton.gonzalez@tufts.edu), Department of Mathematics, Tufts University, Medford, MA 02155, **Jens Christensen** (jchristensen@colgate.edu), Department of Mathematics, Colgate University, Hamilton, NY 13346, and **Tomoyuki Kakehi** (kakehi@math.okayama-u.ac.jp), Department of Mathematics, Faculty of Science, Okayama University, 3-1-1 Tsushima-naka , Kita-ku, Okayama, 700-8530, Japan. *Surjectivity of Mean Value Operators on Noncompact Symmetric Spaces.*

Let $X = G/K$ be a symmetric space of the non-compact type. For $f \in \mathcal{E}(X)$ and a fixed point $y \in X$, the mean value $M^y f$ is the function on X given by

$$M^y f(gK) = \int_K f(gk \cdot y)\, dk \qquad g \in G.$$

We show that the mean value operator $f \mapsto M^y f$ is surjective on $\mathcal{E}(X)$ if X is either complex or of rank one. For general higher rank symmetric spaces X we show that M^y is surjective if y is K-conjugate to a point in an appropriate Weyl subchamber. For a fixed K-invariant distribution $\mu \in \mathcal{E}'(X)$ we also show that Ehrenpreis' slow decrease condition on its spherical Fourier transform is a sufficient condition for convolution with μ to be surjective on $\mathcal{E}(X)$. (Received September 09, 2016)