1021-43-218 **Fulton B Gonzalez*** (`fulton.gonzalez@tufts.edu`), Department of Mathematics, Tufts University, Medford, MA 02148. *Invariant differential operators and the range of the matrix Radon transform.*

We characterize the range of the matrix Radon transform by means of invariant differential operators. This generalizes analogous results for the d-plane transform on $\mathbb{R}^n$, when $d < n - 1$. (Received September 06, 2006)