1046-44-1483   **Elena Ournycheva***, 300 Campus Drive, Bradford, PA 16701. *Erdélyi-Kober integrals on the cone of positive definite matrices and Radon transforms on Grassmann manifolds.*

We introduce bi-parametric fractional integrals of the Erdélyi-Kober type that generalize known Gårding-Gindikin constructions associated to the cone of positive definite matrices. It is proved that the Radon transform, which maps a zonal function on the Grassmann manifold $G_{n,m}$ of m-dimensional linear subspaces of R^n into a function on the similar manifold $G_{n,k}$, $1 \leq m < k \leq n-1$, is represented as analytic continuation of the corresponding Erdélyi-Kober integral. This result shows that different Grinberg-Rubin's formulas for such transforms have, in fact, a common structure. (Received September 15, 2008)