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Joseph A. Wolf* (jawolf@math.berkeley.edu). *Range of the Double Fibration Transform*
(joint work with Michael Eastwood).

Consider a complex flag manifold $Z = G/Q$ and an orbit $D = G_0(z)$ of a real form of G . The *double fibration transform* $P : H^s(D; E) \rightarrow H^0(M_D; E')$ carries cohomology of a negative vector bundle $E \rightarrow D$ to sections of a specific other vector bundle $E' \rightarrow M_D$ on the cycle space of D . When $E \rightarrow D$ is "sufficiently" negative the action of G_0 on $H^s(D; E)$ carries over to an action on the image of P . I'll describe specific situations in which "sufficiently negative" and the image of P are explicit in terms of the inducing parameters of $E \rightarrow D$ and a system of PDE associated to the transform. (Received August 22, 2011)