1125-49-2327 **Wilfrid D. Gangbo*** (wgangbo@math.ucla.edu), Mathematics Department, University of California, Los Angeles, Los Angeles, CA CA 90095-1, and **Bernard Dacorogna** and **Olivier Kneuss**. *Paths of minimal lengths on the set of exact differential k–forms.*

We initiate the study of optimal transportation of exact differential k–forms and introduce various distances as minimal actions. Our study involves dual maximization problems with constraints on the codifferential of k–forms. When $k < n$, only some directional derivatives of a vector field are controlled. This is in contrast with prior studies of optimal transportation of volume forms ($k = n$), where the full gradient of a scalar function is controlled. Furthermore, our study involves paths of bounded variations on the set of k–currents. (Received September 21, 2016)