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)