

# Abstract

The composition  $\varphi \circ u$  of a subharmonic function  $u$  with a convex increasing function  $\varphi(t)$  is subharmonic. If both  $u$  and  $\varphi$  are smooth we have the simple identity.

$$\Delta(\varphi \circ u) = (\varphi' \circ u)\Delta u + (\varphi'' \circ u)\|\nabla u\|^2 \quad (1)$$

Without smoothness of  $u$  and  $\varphi$  the generalized Laplacians  $\Delta u$  and  $\Delta(\varphi \circ u)$  still have an interpretation as measures, and  $\|\nabla u\|^2$  is still a function. We intend to establish (1) as an identity between measures in case  $\varphi(t) = e^t$ , for arbitrary subharmonic functions  $u$ .