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**Greg Francos\***, Department of Mathematics, University of Pittsburgh, 301 Thackeray Hall, Pittsburgh, PA 15260, and **Piotr Hajlasz**. *Lusin-type Approximation of Higher-Order Functions of Bounded Variation*. Preliminary report.

A *BV* function is an  $L^1$  function whose distributional derivatives are Radon measures of finite total variation. Given a *BV* function  $f$ , there exists a  $C^1$  function that coincides with  $f$  outside a set of arbitrarily small Lebesgue measure. We extend this result to higher-order functions of bounded variation; i.e. functions  $f \in W^{m-1,1}$  whose  $(m-1)$ st order derivatives are each in *BV*. Specifically, we show that such a function coincides with a  $C^m$  function outside a set of arbitrarily small Lebesgue measure. We also address whether such Lusin-type approximations may be chosen to converge to  $f$  in  $W^{m-1,1}$  and with respect to the stronger notion of ‘strict convergence’. (Received August 10, 2010)