



Erratum

Corrigendum to the Note “On the minimum f -divergence for given total variation” [C. R. Acad. Sci. Paris, Ser. I 343 (2006) 763–766]

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Eq. (1) is correct whenever the right hand side is well defined. However, this may not be the case if either:

- (i) $g(0) < g(+\infty)$ and $2[g_R^{-1}(g(0)) - 1]/g_R^{-1}(g(0)) < v < 2$; or
- (ii) $g(+\infty) < g(0)$ and $2[1 - g_L^{-1}(g(+\infty))] < v < 2$.

It follows directly from Proposition 2.1 that in the former case

$$L_{D_f}(v) = d(1 - v/2, v) = \frac{2-v}{2} f\left(\frac{2}{2-v}\right) + \frac{v}{2} f(0),$$

while in the latter

$$L_{D_f}(v) = d(0, v) = f\left(\frac{2-v}{2}\right) + \frac{v}{2} \lim_{u \rightarrow \infty} f(u)/u.$$

The expressions for L_D and for L_{D_f} for f -divergences such that $D_f(P, Q) \equiv D_f(Q, P)$ remain as stated. However, when $f(1-u) = f(1+u) - 2f'(1)u$, we should have that

$$L_{D_f}(v) = f(1+v) - f'(1)$$

when $0 \leq v \leq 1$ and

$$L_{D_f}(v) = [(2-v)/2]f[2/(2-v)] + (v/2)f(0)$$

when $1 < v \leq 2$. Hence, $L_{\chi^2}(v) = v^2$ for $0 \leq v \leq 1$ and $L_{\chi^2}(v) = v/(2-v)$ for $1 < v < 2$.

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