Errata to: Local Mappings on Spaces of Differentiable Functions [1]

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Some errors occurred in page 82 of the above paper [1].

l.10: " $|\alpha| \leq k$ " becomes " $|\alpha| = k$ ",

l.15: " $\alpha \in I(k)$ " becomes " α with $|\alpha| \leq k$ ",

l.19: "... a multi-index in $I(k)$ " becomes "... a multi-index with norm $|\alpha| \leq k$ ",

l.25: " $\alpha \in I(k)$ " becomes " α with $|\alpha| \leq k$ ",

l.27: "... for all $\alpha \in I(k)$." becomes "... for all α with $|\alpha| \leq k$."

After these corrections, lines 10–30 in page 82 should become:

Let $I(k)$ be the set of all multi-indices α with $|\alpha| = k$; if u is a function from Ω into $\mathbf{R}^m$ we denote by $D^k u$ the k -th derivative of u , i.e. the function of Ω into $(\mathbf{R}^m)^{I(k)}$ defined by $(D^k u(x))_\alpha = D^\alpha u(x)$ for all $\alpha \in I(k)$ and $x \in \Omega$.

In the paper the following function spaces are used.

$C^k(\Omega, \mathbf{R}^m)$ the space of all functions of Ω into $\mathbf{R}^m$ such that $D_\alpha u$ is a continuous function for every α with $|\alpha| \leq k$; $C^k(\Omega, \mathbf{R}^m)$ is usually endowed with the structure of Fréchet space induced by the seminorms $\phi_{\alpha, K}$ given by

$$\phi_{\alpha, K}(u) = \sup_{x \in K} |D_\alpha u(x)| \quad \text{for all } u,$$

where α is a multi-index with norm $|\alpha| \leq k$ and K is a compact subset of Ω .

$C_c^k(\Omega, \mathbf{R}^m)$	the space of all functions $u \in C^k(\Omega, \mathbf{R}^m)$ with compact support in Ω .
$C_0^k(\Omega, \mathbf{R}^m)$	the space of all functions u such that $D_\alpha u$ is a continuous function which vanish at infinity, i.e. such that for every $\varepsilon > 0$ there exists a compact set K which satisfies $ D_\alpha u(x) < \varepsilon$ for all $x \in \Omega \setminus K$ for every multi-index α with $ \alpha \leq k$.
$C^k(\overline{\Omega}, \mathbf{R}^m)$	the space of all u such that $D_\alpha u$ admits a continuous extension to the set $\overline{\Omega}$ for all α with $ \alpha \leq k$. Both $C_0^k(\Omega, \mathbf{R}^m)$ and $C^k(\overline{\Omega}, \mathbf{R}^m)$ are closed subspace of the Sobolev space $W^{k,\infty}(\Omega, \mathbf{R}^m)$ and are usually endowed with the norm

$$\|u\|_{W^{k,\infty}} = \sum_{\alpha \in I(k)} \|D_\alpha u\|_\infty.$$

References

- [1] Alberti, G., Buttazzo, G.: Local mappings on spaces of differentiable functions. *Manuscripta Mathematica* **79**, 81–97 (1993)

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