

cases	doc_1		doc_2		decision	id
	authors	<ul style="list-style-type: none"><li>Ali Behzadan</li><li>Michael Holst</li></ul>			DUPLICATES	22
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	id	id7386442988778460237	urls	<ul style="list-style-type: none"><li>https://web.archive.org/web/20200826002441/https://arxiv.org/pdf/1704.07930v3.pdf</li></ul>		
	abstract	In this manuscript, we present a coherent rigorous overview of the main properties of Sobolev-Slobodeckij spaces of sections of vector bundles on compact manifolds; results of this type are scattered through the literature and can be difficult to find. A special emphasis has been put on spaces with noninteger smoothness order, and a special attention has been paid to the peculiar fact that for a general nonsmooth domain $\hat{\Omega}$ in $\mathbb{R}^n$ , $0 < t < 1$ , and $1 < p < \hat{\alpha}$ , it is not necessarily true that $W^{1,p}(\hat{\Omega}) \hookrightarrow W^{t,p}(\hat{\Omega})$ . This has dire consequences in the multiplication properties of Sobolev-Slobodeckij spaces and subsequently in the study of Sobolev spaces on manifolds. We focus on establishing certain fundamental properties of Sobolev-Slobodeckij spaces that are particularly useful in better understanding the behavior of elliptic differential operators on compact manifolds. In particular, by introducing notions such as "geometrically Lipschitz atlases" we build a general framework for developing multiplication theorems, embedding results, etc. for Sobolev-Slobodeckij spaces on compact manifolds. To the authors' knowledge, some of the proofs, especially those that are pertinent to the properties of Sobolev-Slobodeckij spaces of sections of general vector bundles, cannot be found in the literature in the generality appearing here.	id	id7465811659130883058		
	versions		abstract	In this article we present a coherent rigorous overview of the main properties of Sobolev-Slobodeckij spaces of sections of vector bundles on compact manifolds; results of this type are scattered through the literature and can be difficult to find. A special emphasis has been put on spaces with noninteger smoothness order, and a special attention has been paid to the peculiar fact that for a general nonsmooth domain $U$ in $\mathbb{R}^n$ , $0 < t < 1$ , and $1 < p < \infty$ , it is not necessarily true that $W^{1,p}(U)$ is continuously embedded in $W^{(t,p)}(U)$ . This has dire consequences in the multiplication properties of Sobolev-Slobodeckij spaces and subsequently in the study of Sobolev spaces on manifolds. To the authors' knowledge, some of the proofs, especially those that are pertinent to the properties of Sobolev-Slobodeckij spaces of sections of general vector bundles, cannot be found in the literature in the generality appearing here.		
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