

cases	doc_1		doc_2		decision	id
	authors	<ul style="list-style-type: none">Swarnendu Sil			DUPLICATES	102
	title	Topology of weak GS -bundles via Coulomb gauges in critical dimensions	authors	<ul style="list-style-type: none">Swarnendu Sil		
	publication_date	2019-09-16 16:07:29+00:00	title	Topology of weak G -bundles via Coulomb gauges in critical dimensions		
	source	SupportedSources.ARXIV	publication_date	2019-09-16 00:00:00		
	journal	None	source	SupportedSources.INTERNET_ARCHIVE		
	volume		journal			
	doi		volume			
	urls	<ul style="list-style-type: none">http://arxiv.org/pdf/1909.07308v1http://arxiv.org/abs/1909.07308v1http://arxiv.org/pdf/1909.07308v1	doi			
	id	id8598326308024084774	urls	<ul style="list-style-type: none">https://web.archive.org/web/20200830053257/https://arxiv.org/pdf/1909.07308v1.pdf		
	abstract	The transition maps for a Sobolev GS -bundle are not continuous in the critical dimension and thus the usual notion of topology does not make sense. In this work, we show that if such a bundle P is equipped with a Sobolev connection A , then one can associate a topological isomorphism class to the pair (P, A) which is invariant under Sobolev gauge changes and coincides with the usual notions for regular bundles and connections. This is based on a regularity result which says any bundle in the critical dimension in which a Sobolev connection is in Coulomb gauges are actually $C^{0,\alpha}$ for any $\alpha < 1$. We also show any such pair can be strongly approximated by smooth connections on smooth bundles. Finally, we prove that for sequences (P^ν, A^ν) with uniformly bounded $n/2$ -Yang-Mills energy, the topology stabilizes if the $n/2$ norm of the curvatures are equiintegrable. This implies a criterion to detect topological flatness in Sobolev bundles in critical dimensions via $n/2$ -Yang-Mills energy.	id	id-5692175706795206628		
	versions		abstract	The transition maps for a Sobolev G -bundle are not continuous in the critical dimension and thus the usual notion of topology does not make sense. In this work, we show that if such a bundle P is equipped with a Sobolev connection A , then one can associate a topological isomorphism class to the pair (P, A) , which is invariant under Sobolev gauge changes and coincides with the usual notions for regular bundles and connections. This is based on a regularity result which says any bundle in the critical dimension in which a Sobolev connection is in Coulomb gauges are actually $C^{0,\hat{1}\pm}$ for any $\hat{1}\pm < 1$. We also show any such pair can be strongly approximated by smooth connections on smooth bundles. Finally, we prove that for sequences $(P^{\hat{1}\frac{1}{2}}, A^{\hat{1}\frac{1}{2}})$ with uniformly bounded $n/2$ -Yang-Mills energy, the topology stabilizes if the $n/2$ norm of the curvatures are equiintegrable. This implies a criterion to detect topological flatness in Sobolev bundles in critical dimensions via $n/2$ -Yang-Mills energy.		
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