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Cover topologies, subspaces, and quotients for some spaces of vector-valued functions.

Let X be a completely regular Hausdorff space, and \mathcal{D} a cover of X by C_b -embedded sets. Mati Abel, J. Arhippainen, and J. Kauppi in [Mediterr. J. Math. 7 (2010) 271-282] and [Cent. Eur. J. Math. 10 (2012), 1060-1066] describe the cover topology on $C_b(X, \mathcal{D})$, the space of continuous scalar-valued functions on X which are bounded on each $D \in \mathcal{D}$, and investigate the ideal and quotient structures of $C_b(X, \mathcal{D})$. We use ideas from the theory of bundles of topological vector spaces (in particular, bundles of Banach algebras), as found in e.g. G. Gierz [Lect. Notes Math. 955 (Springer-Verlag, 1982)] and the present authors' papers [Acta. Comment. Univ. Tartuensis Math. 14 (2010), 75-90] and [Quaest. Math. 34 (2011), 361-376] to define analogous topologies on section spaces of such bundles, and to discuss density properties, ideals, and quotients of such spaces. This work is also related to the authors' paper *Cover-strict topologies, ideals, and quotients for some spaces of vector-valued functions*, Banach J. Math. Anal. 10 (2016), 783-799. (Received September 24, 2017)