

On the Existence of Constructions on Connections by Gauge Bundle Functors

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Abstract: We characterize gauge bundle functors $F : \mathcal{PB}_m(G) \rightarrow \mathcal{FM}$ which admit a construction of a classical linear connection $A(\Gamma, \nabla)$ on FP from a principal general connection Γ on $P \rightarrow M$ by means of a classical linear connection ∇ on M .

Key words: Principal general connection, classical linear connection, gauge bundle functor, natural (gauge) operator.

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