Symmetries of the Space of Connections on a Principal G-Bundle and Related Symplectic Structures

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ABSTRACT

We investigate G-invariant symplectic structures on the cotangent bundle T*P of a principal G-bundle P(M,G) which are canonically related to automorphisms of the tangent bundle TP covering the identity map of P and commuting with the action of TG on TP. The symplectic structures corresponding to connections on P(M,G) are also investigated.