The Yang-Mills Equations over Klein Surfaces

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In "The Yang-Mills equations over Riemann surfaces", Atiyah and Bott studied Yang-Mills functional over a Riemann surface from the point of view of Morse theory, and derived results on topology of the moduli space of algebraic bundles over a complex algebraic curve. In this talk, I will discuss Yang-Mills functional over a Klein surface (a 2-manifold equipped with a di-analytic structure) from the point of view of Morse theory, and derive results on topology of the moduli space of real or quaternionic vector bundles over a real algebraic curve. This is based on joint work with Florent Schaffhauser.