SYMPLECTIC REAL BOTT MANIFOLDS

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Abstract: A real Bott manifold is the total space of an iterated $\mathbb{R}P^1$-bundles over a point, where each $\mathbb{R}P^1$-bundle is the projectivization of a Whitney sum of two real line bundles. In this talk, we characterize real Bott manifolds which admit a symplectic form. In particular, it turns out that a real Bott manifold admits a symplectic form if and only if it is cohomologically symplectic. In this case, it admits even a Kähler structure. Finally, we study the flux of a symplectic real Bott manifold.