

Complex vs convex Morse functions and geodesic flow

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Suppose that S is a closed and oriented surface equipped with a Riemannian metric. In the literature, there are four seemingly distinct constructions of open books on the unit (co)-tangent bundle of S , having complex, symplectic, contact and Riemannian geometric flavors, respectively. We observe that all of these constructions are based on a suitable choice of a Morse function on S and show that once such a Morse function is fixed, the resulting open books are equivalent. This is a joint work with Pierre Dehornoy.