ON CRITICAL LEVEL SETS OF SOME TWO DEGREES OF FREEDOM INTEGRABLE HAMILTONIAN SYSTEMS

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ABSTRACT. We prove that all Liouville’s tori generic bifurcations of a large class of two degrees of freedom integrable Hamiltonian systems (the so-called Jacobi-Moser-Mumford systems) are nondegenerate in the sense of Bott. Thus, for such systems, Fomenko’s theory [4] can be applied (we give the example of Gel’fand-Dikii’s system). We also check the Bott property for two interesting systems: the Lagrange top and the geodesic flow on an ellipsoid.