

SOLVABILITY OF SUPER LIOUVILLE SYSTEMS ON RIEMANN SURFACES

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Time: Mon, Nov. 9th, 14:30-15:30

Zoom meeting ID: 681 725 82576

Password: 456654

Link: <https://zoom.com.cn/j/68172582576>

Abstract: The super Liouville systems are the natural (supersymmetric) extension of the Liouville equations. They consist of a Liouville type equation on scalars and a critical Dirac equation on spinors, which are coupled together. The Dirac part is strongly indefinite and the systems are conformal invariant. By exploring the properties of the Dirac operators we found good variational structures and hence some nontrivial solutions. This is a joint work with Jevnikar and Malchiodi.