

Compactness of solutions to some geometric fourth-order equations

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ABSTRACT. We prove compactness of solutions to some fourth order equations with exponential nonlinearities on four manifolds. The proof is based on a refined bubbling analysis, for which the main estimates are given in integral form. Our result is used in a subsequent paper to find critical points (via minimax arguments) of some geometric functional, which give rise to conformal metrics of constant Q -curvature. As a byproduct of our method, we also obtain compactness of such metrics.

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