Let $X \subset \mathbb{CP}^r$ be a smooth projective complex manifold. T. Aubin defined an energy functional $F_0^\omega$ on the set of all Kähler-Einstein metrics on $X$. Here the author relates $F_0^\omega$ to the Chow-Mumford stability of $X$. He uses his result to obtain a new proof of the stability of a linearly normal embedding of degree $d \geq 3g$ of a smooth genus $g$ curve (better bounds on $d$ are known). To obtain the last result he analyzes the asymptotics of some rational integrals.

Reviewer: Edoardo Ballico (Povo)

MSC:
53C55 Global differential geometry of Hermitian and Kählerian manifolds
32J27 Compact Kähler manifolds: generalizations, classification
14C05 Parametrization (Chow and Hilbert schemes)

Keywords:
Chow-Mumford stability; energy functional; stability; Kähler cone

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References:

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