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Nonconcentrating generalized Young functionals

Abstract: The Young measures, used widely for relaxation of various optimization problems, can be naturally understood as certain functionals on suitable space of integrands, which allows readily various generalizations. The paper is focused on such functionals which can be attained by sequences whose "energy" ($=p$th power) does not concentrate in the sense that it is relatively weakly compact in $L^1(\Omega)$. Straightforward applications to coercive optimization problems are briefly outlined.