RECENT DEVELOPMENTS IN A-QUASICONVEXITY

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We review recent developments in the theory of weak convergence of pde constrained sequences. We consider the weak lower semicontinuity problem along weakly convergent A-free sequences, where A is a linear pde system of constant rank and provide improvements of the A-quasiconvexity theory of Fonseca--Müller and compensated compactness theory of Murat--Tartar. We present the characterization of Young measures generated by A-free sequences by duality with A-quasiconvex functions. Special emphasis will be placed on concentration effects of weak convergence, in particular by presenting the resolution of a question due to Coifman--PL Lions--Meyer--Semmes. Joint work with André Guerra, Jan Kristensen, Zhuolin Li, Matthew Schrecker.