A MAXIMUM PRINCIPLE FOR SYSTEMS WITH VARIATIONAL STRUCTURE

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Abstract: We will discuss a maximum principle type of theorem for vector valued maps that are global minimizers of the functional

$$J_A(u) = \int_A \left(\frac{1}{2} \|\nabla u\|^2 + W(u) \right),$$

where $A \subset \mathbb{R}^n$ is open connected set and $W : \mathbb{R}^m \to \mathbb{R}$ is a C^2 potential. The result is not true in general for local minimizers, and it is not quite trivial even in the scalar case. This work is joint with G. Fusco.