On the strong minimum in the classical problem of calculus of variations

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The main result to be presented at the talk contains a second order necessary condition for a strong minimum in the standard problem of calculus of variations. Novelty of this result is emphasized by the fact that no idea of a possibility of such a condition has ever appeared in classical theory. A simple example shows that the theorem can work when other known necessary conditions fail. Originally the theorem was obtained as a consequence of a corresponding result for a sufficiently general class of optimal control problems (Calculus of Variations and PDEs (2020), 59:83). But an independent proof of the theorem is noticeably simpler and will be described in some details.

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