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On the Euler equations for nonhomogeneous fluids.

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This paper intends to present an elementary proof, simpler than the previous ones, for the existence of a local regular solution of the Euler problem for a nonhomogeneous fluid in a fixed domain. But the sketched proof of Lemma 4.2 is not a “well-known argument”; it is a misuse of subsequences. From a sequence $\{v_n\}$ of points belonging to a compact set, one can extract a subsequence $\{v_{n_p}\}$ such that both v_{n_p} and v_{n_p-1} have limits; if one could always realize the identity of these two limits, then the proof of Lemma 4.2 would hold.

Reviewed by *Jean Leray*

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