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**On a class of fluids grade 3.** (English) Zbl 0887.76007

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Summary: We consider a class of a non-Newtonian fluids of grade 3. We give existence and uniqueness theorems for the two- and three-dimensional cases. These solutions are local ones. In the two-dimensional case, we show that for suitable data the solution can be defined globally. The proof of the main results are based on Galerkin method by using a special basis in an appropriate functional space.

**MSC:**

[76A05](#) Non-Newtonian fluids

[35Q35](#) PDEs in connection with fluid mechanics

Cited in **1** Review  
Cited in **10** Documents

**Keywords:**

existence; uniqueness; Galerkin method; special basis; functional space

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