A BRIEF REPORT ON THE ARTICLE " MONOTONE ITERATIVE TECHNIQUE FOR BOUNDARY VALUE PROBLEMS OF A NONLINEAR FRACTIONAL DIFFERENTIAL EQUATION WITH DEVIATING ARGUMENTS."

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Abstract. The author considers a nonlinear fractional differential equation with deviating arguments. A method of upper and lower solutions and the monotone iterative technique is used to prove constructive existence results for the problem under consideration. Some useful example is presented to illustrate the method considered by the author.

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1. equation to be solved

$$D^q u(t) = f(t, u(t), u(\alpha(t))),\ t \in (0, T), \tag{1}$$

with

$$g(\tilde{u}(0), \tilde{u}(T)) = 0, \tag{2}$$

with $\tilde{u}(t) = t^{1-q}u(t)$ and $0 < q < 1$.

2. some basic knowledge and literature

1. some literature on fractional differential equations [1, 2, 3]
2. fractional derivatives are generalization for derivatives of integer order
3. fractional differential equations occur in many research areas such as physics, chemistry, electrodynamics of complex medium,...

References

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