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J Diego Ramirez* (jdr3542@louisiana.edu), P.O. Box 43671, Lafayette, LA 70504, and Aghalaya S Vatsala. Fractional Differential Equations with Periodic Boundary Conditions. Generalized Monotone Method and Conditions for Uniqueness.

Recently we developed Generalized Monotone Iterative Technique for Periodic Boundary Value Problems with Caputo Fractional Derivative of order q, 0 < q < 1. Our approach simplifies the computations because it uses Initial Value Problem instead of Linear Periodic Boundary Problem, and we obtained coupled minimal and maximal solutions. In this work we show some conditions that are necessary for the solution to be unique. (Received September 07, 2011)