

**WELL-POSEDNESS OF FULLY NONLINEAR PDES WITH
CAPUTO'S TIME-FRACTIONAL DERIVATIVE**

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ABSTRACT. We will find a proper extended notion of viscosity solutions for (first order) Hamilton-Jacobi equations with Caputo's time-fractional derivative of order less than one. As for the integer-order case, the unique existence is established by the comparison principle and the Perron's method. Stability with respect to the order of time derivative as well as the standard one is also proved by the half-relaxed limit method. If time permits, we will touch on an extension to second-order equations. This talk is partially based on the joint work with Professor Yoshikazu Giga (U.Tokyo, Japan).

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