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SOME STABILITY CONCEPTS FOR DARBOUX PROBLEM FOR PARTIAL FRACTIONAL DIFFERENTIAL EQUATIONS ON UNBOUNDED DOMAIN

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Abstract. In the present paper, we investigate some Ulam's type stability concepts for the Darboux problem of partial differential equations of fractional order on unbounded domain. We use a nonlinear alternative of Leray-Schauder type for contraction maps in Fréchet spaces and a fractional version of Gronwall's inequality.

Key Words and Phrases: Fractional differential equations, left-sided mixed Riemann-Liouville integral, Caputo fractional order derivative, Darboux problem, Fréchet space, Ulam stability, fixed point.

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