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**Title:** On the fractional regularity of solutions for a doubly nonlinear differential inclusion

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**Abstract:** In this talk, we consider the issues of existence and regularity of solutions to a doubly nonlinear differential inclusion involving the p-Laplacian and a maximal monotone operator. The investigation on fractional regularity is based on the Galerkin method combined with a suitable basis for the Sobolev space  $W^{1,p}$ . This approach also allows the obtaining of estimates in the so-called Nikolskii spaces, since it balances the interplay between the maximal monotone operator with the appearing higher-order nonlinear terms.