Impulsive noise driven fractional partial differential equations

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We intend to consider a stochastic fractional differential equation driven by an impulsive noise, which is initially introduced by Z. Peszat and J. Zabczyk in 2005 and is singular not only in time but also in space. We will first study the existence and uniqueness of solutions and then investigate the regularities of solution, especially in its space variable which depends on the order of the fractional operator. Our results deeply rely on precise analysis of the kernel generated by our operator.