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**Kazuo Yamazaki\*** ([kyamazak@ur.rochester.edu](mailto:kyamazak@ur.rochester.edu)), Department of Mathematics, University of Rochester, Rochester, NY 14627. *Strong Feller property of the magnetohydrodynamics system forced by space-time white noise via regularity structures.*

When a differential equation is forced by a random noise that is white in not only time, but also in space, the solution becomes too rough so that the non-linear term does not make any sense via a classical method. Such equations are called singular PDEs; a prominent example includes the KPZ equations. The theories of paracontrolled calculus and regularity structures are two recent novel methods with which non-trivial limit of approximation scheme may be obtained for such singular PDEs.

We consider three-dimensional magnetohydrodynamics system forced by space-time white noise, apply the theory of regularity structures and prove the local well-posedness, as well as the strong Feller property. (Received June 08, 2019)