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## Abstracts of Short Communications and Posters

### Section:

## 10. Partial Differential Equations

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**Solution of first order stochastic functional partial differential equations via integral contractors**

M. Altman introduced the concept of contractors as a tool for solving deterministic equations in Banach spaces.

In this paper we utilize the contractor theory to study the functional partial differential equations of first order with a random coefficient

$$\begin{aligned}
\frac{\partial u}{\partial t}(t,x;\omega) \quad &+ \quad \{a(t,x;\omega)+b(t,x;\omega)\dot{w}(t;\omega)\}\frac{\partial u}{\partial x}(t,x;\omega) \\
&= \quad f(t,x,u_{(t,x)}(\omega);\omega)+g(t,x,u_{(t,x)}(\omega);\omega)\dot{w}(t;\omega),\ (t,x)\in I \\
u(t,x;\omega) \quad &= \quad \varphi(t,x;\omega), \quad (t,x)\in I_0,\ \omega\in\Omega,
\end{aligned}$$

where $\dot{w}(t;\omega)$ is the white noise process and $u_{(t,x)}$ is the Hale-type operator. The formulation includes retarded argument and hereditary Volterra terms.