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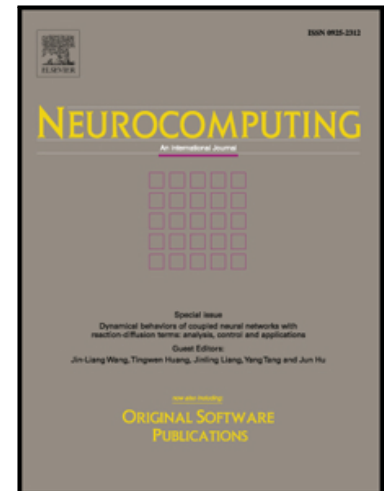
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# Robust adaptive neural control for pure-feedback stochastic nonlinear systems with Prandtl-Ishlinskii hysteresis

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**Abstract:** This work considers robust adaptive neural-based control of pure-feedback stochastic nonlinear systems with the generalized Prandtl-Ishlinskii hysteresis. The mean-value theorem is employed to handle the non-affine difficulties from the generalized Prandtl-Ishlinskii hysteresis and the pure-feedback systems. By using the radial basis function (RBF) neural networks' universal approximation capability and backstepping technique, an adaptive neural control scheme with minimum adaptive parameter is developed. The presented

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