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Divergence instability of pipes conveying fluid with uncertain flow velocity

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*Highlights (for review) ACCEPTED MANUSCRIPT

Highlights:

- Proposing a method for investigating probabilistic stability of pipes conveying fluid.
- Considering flow velocity as a stationary random process with Gaussian distribution.
- Using the stochastic averaging method to approximate system stability conditions.
- Decreasing critical mean flow velocity by raising PSD of the random velocity.
- Utilizing the regression analysis of analytical data to develop design equations.

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