

Abstract Submitted  
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**Impact of noise on the onset of vortex breakdown**<sup>1</sup> B.D. WELFERT,  
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Catalonia — The effects of noise on the onset of vortex breakdown in an enclosed  
cylinder driven by the rotation of an endwall is investigated using a novel approach in  
which the stochasticity is introduced physically via the boundary conditions, leading  
to a system with stochastic parametric forcing. A novel temporal reduction of the  
stochastic problem to a mean flow problem and a stochastic correction problem  
involving a random Wiener process whose characteristics explicitly depend on the  
mean solution and the type of noise, is used in order to make the problem tractable.

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