

Abstract Submitted  
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**Reflectional symmetry breaking of the separated flow over 3D bluff bodies**<sup>1</sup> MATHIEU GRANDEMANGE, ENSTA ParisTech / PSA Peugeot Citroën, MARC GOHLKE, PSA Peugeot Citroën , OLIVIER CADOT, ENSTA ParisTech — The first experimental observation of a permanent reflectional symmetry breaking (RSB) is reported for a laminar three-dimensional wake. Based on flow visualizations, a first bifurcation from the trivial steady symmetric state to a steady RSB state is characterized at  $Re = 340$ . The RSB state becomes unsteady after a second bifurcation at  $Re = 410$ . It is found that this RSB regime is persistent at large Reynolds numbers and responsible for a bi-stable turbulent wake.

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