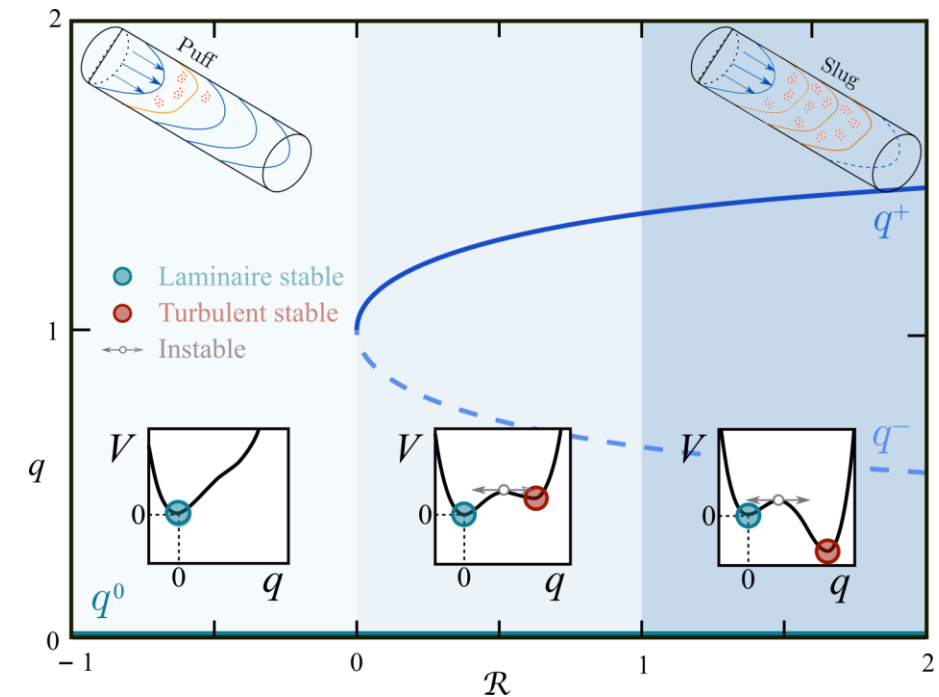
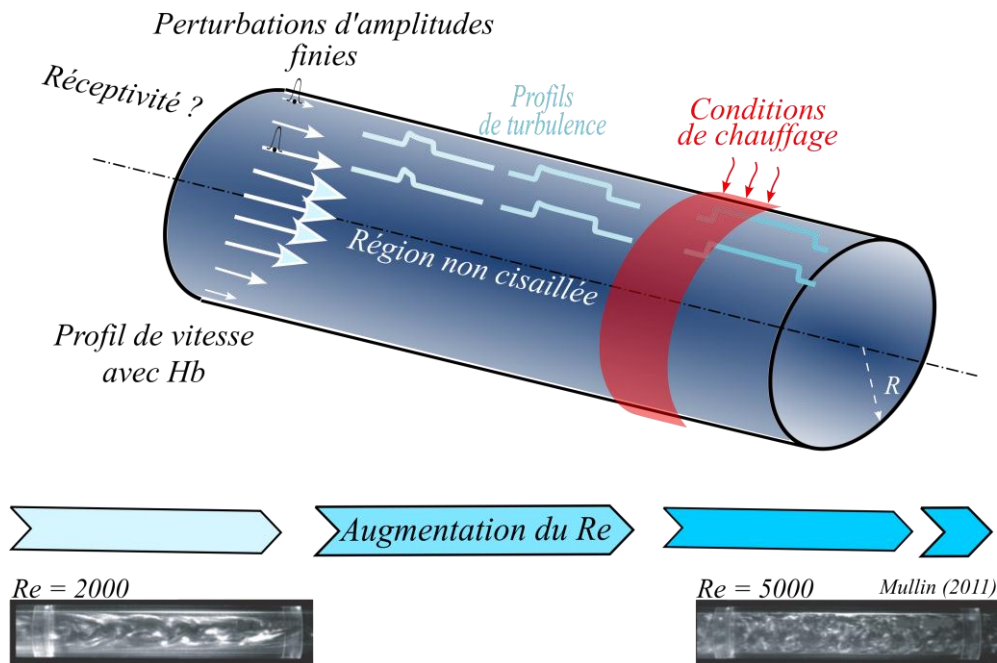


# Laminar-turbulent intermittency in pipe flow for a non-Newtonian fluid : Receptivity and thermo-rheology

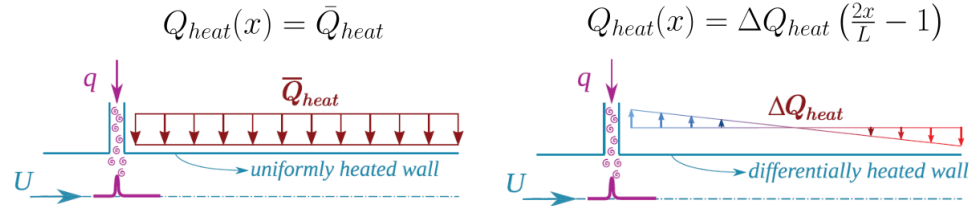
Antoine CHARLES

C. Blervacq, F. Romanò, T. Ribeiro, V. Rocher, S. Azimi, J.-C. Baudez & S. A. Bahrani



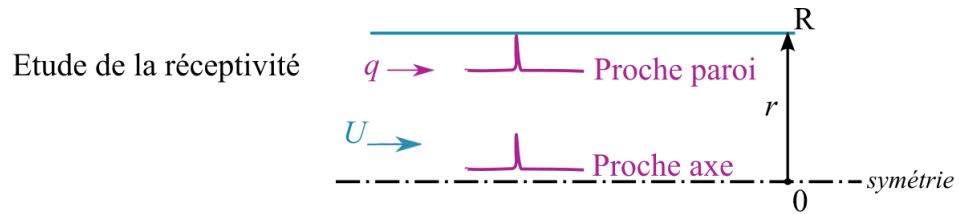
# Travaux menés

2021 Fluide Herschel-Bulkley sans seuil avec conditions thermiques à la paroi



Romanò et al., *Physics of Fluids*, 33, 090401 (2021)

2022 Fluide Herschel-Bulkley avec ou sans seuil  $\tau = \tau_0 + K\dot{\gamma}^n$



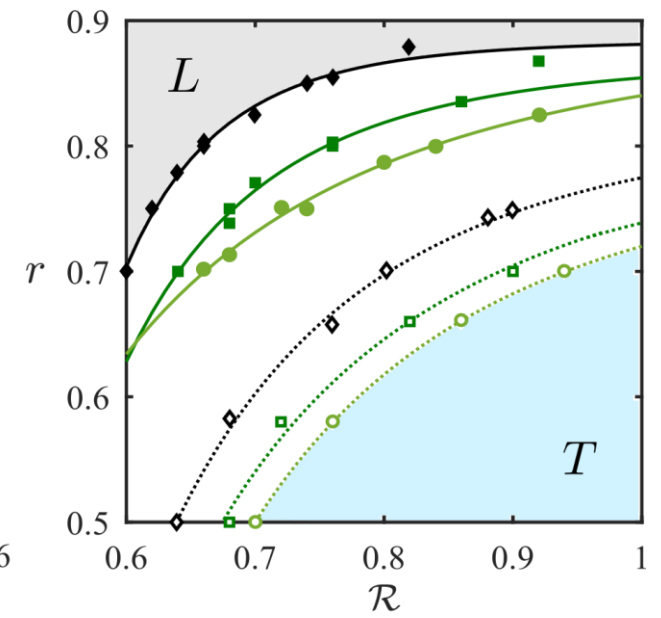
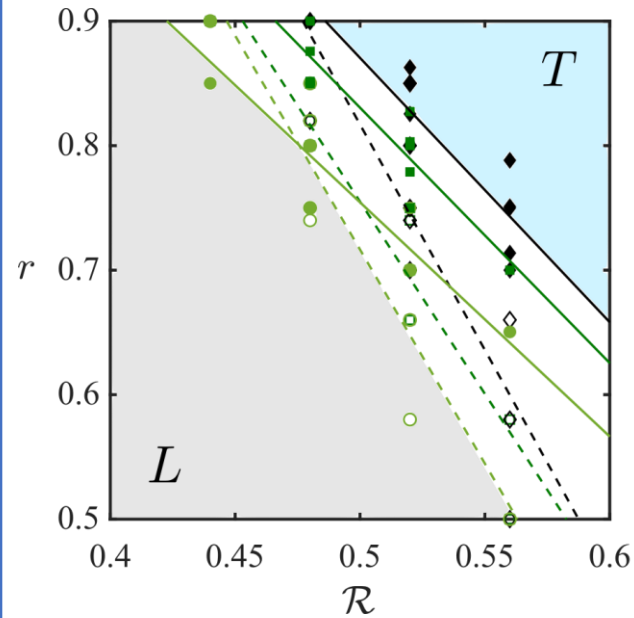
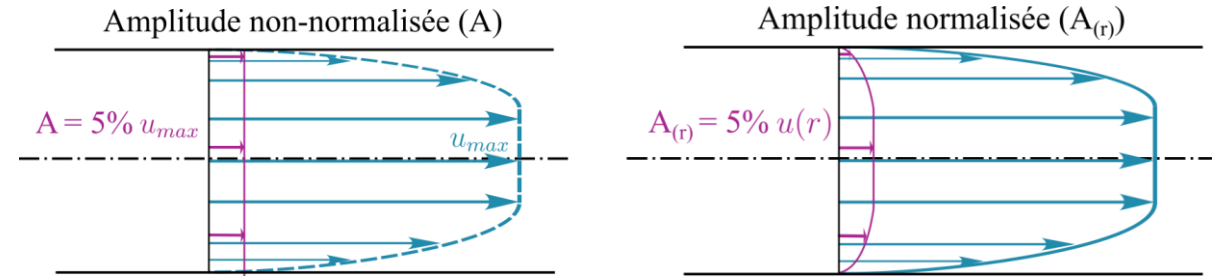
Charles et al., *Physics of Fluids*, 34, 111703 (2022)

2023 Fluide Herschel-Bulkley avec interaction thermique/rhéologie

$$K = K_{ref} e^{-b(T-T_{ref})}$$



# Principaux résultats



$L$  Laminaire  
 $T$  Turbulent  
 $\mathcal{R}$  Paramètre Reynolds

$\tau_0 = 0.5$ ,  $\left\{ \begin{array}{l} \text{---} \blacklozenge n=0.7 \\ \text{---} \blacksquare n=1.0 \\ \text{---} \bullet n=1.2 \end{array} \right.$

$\tau_0 = 0$ ,  $\left\{ \begin{array}{l} \text{---} \diamond n=0.7 \\ \text{---} \square n=1.0 \\ \text{---} \circ n=1.2 \end{array} \right.$