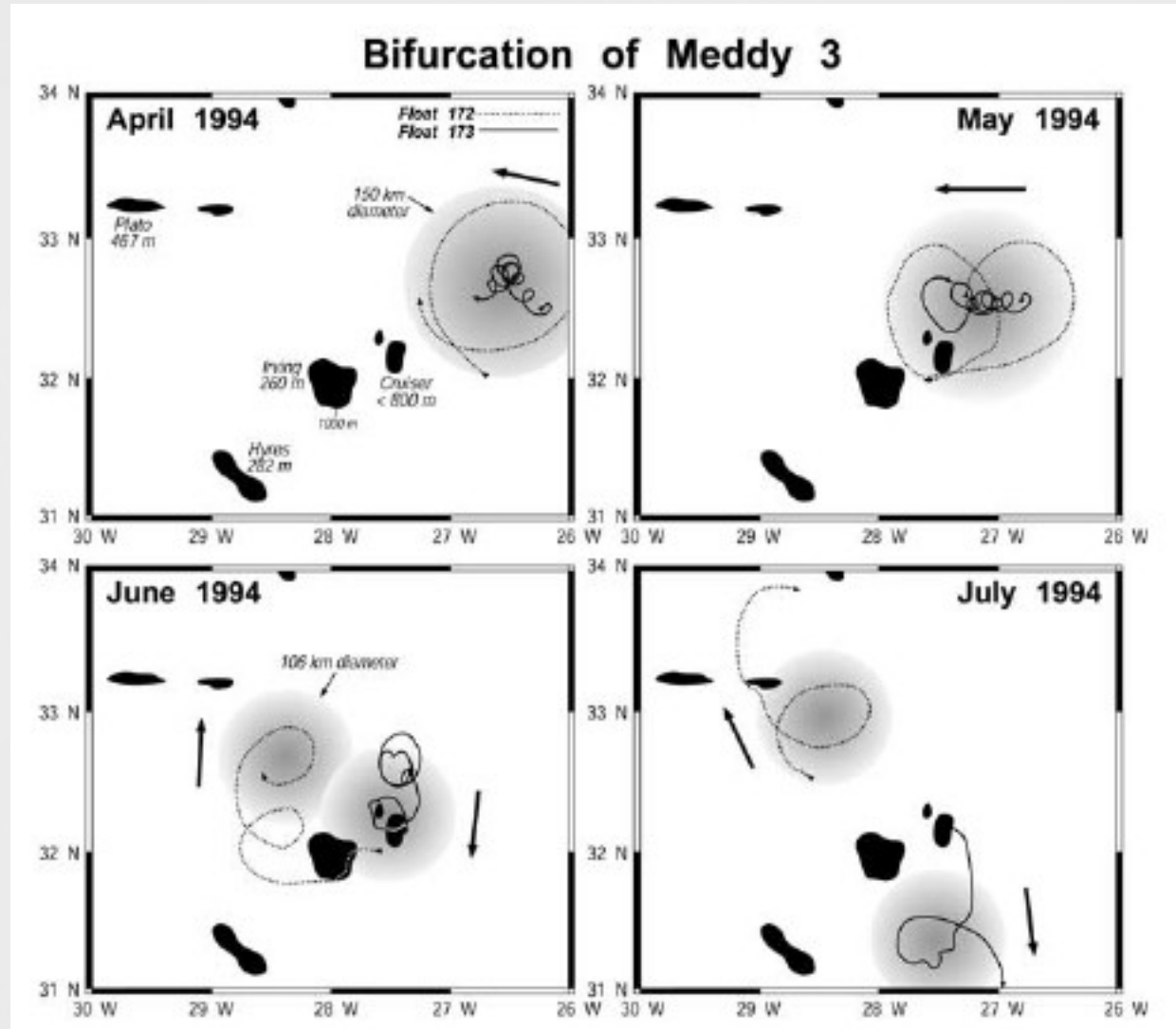
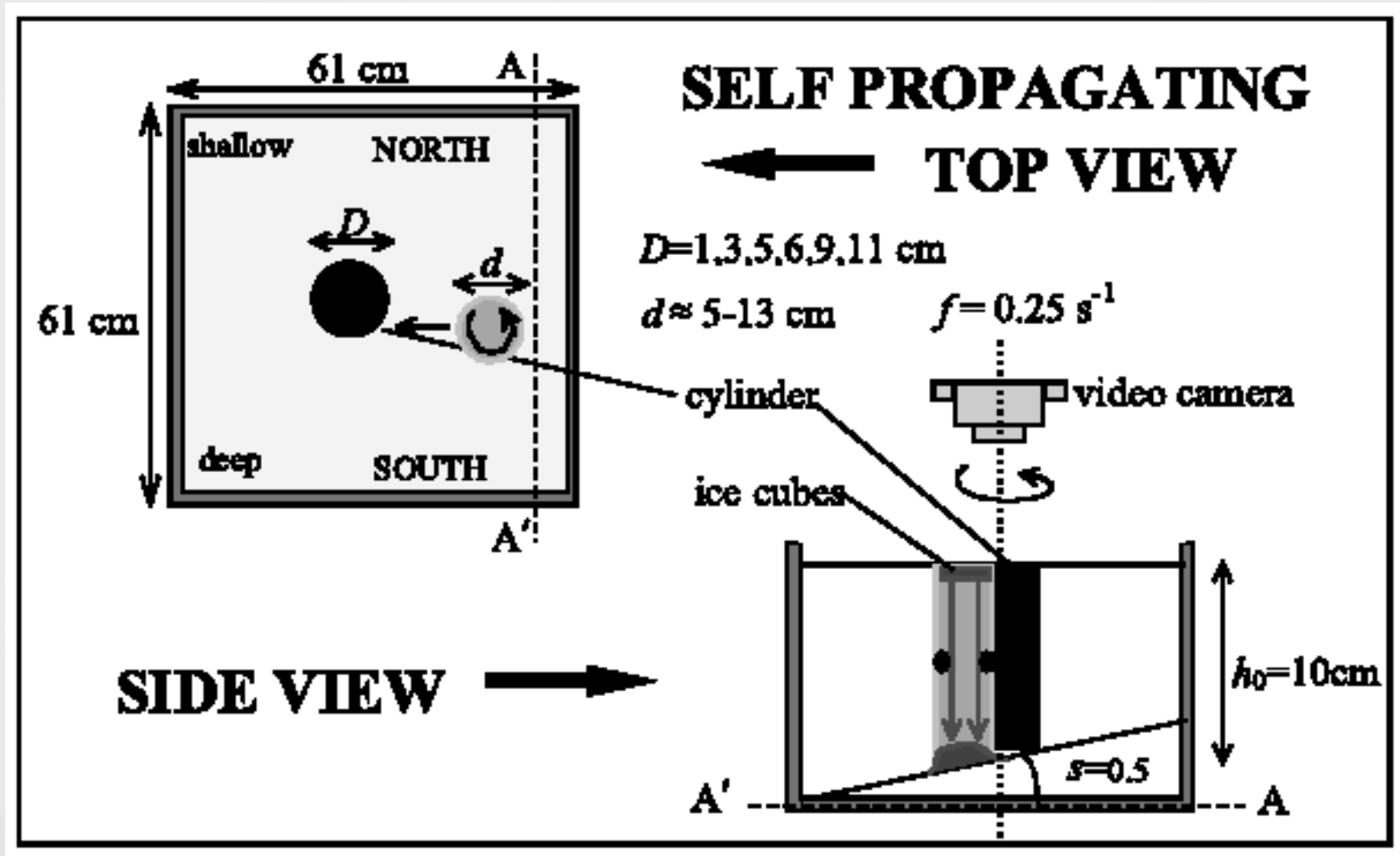


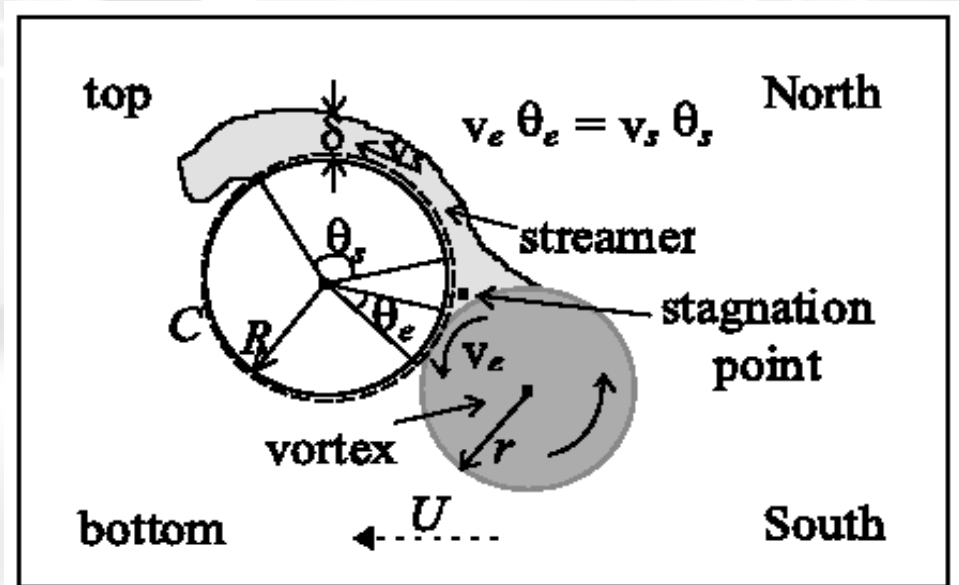
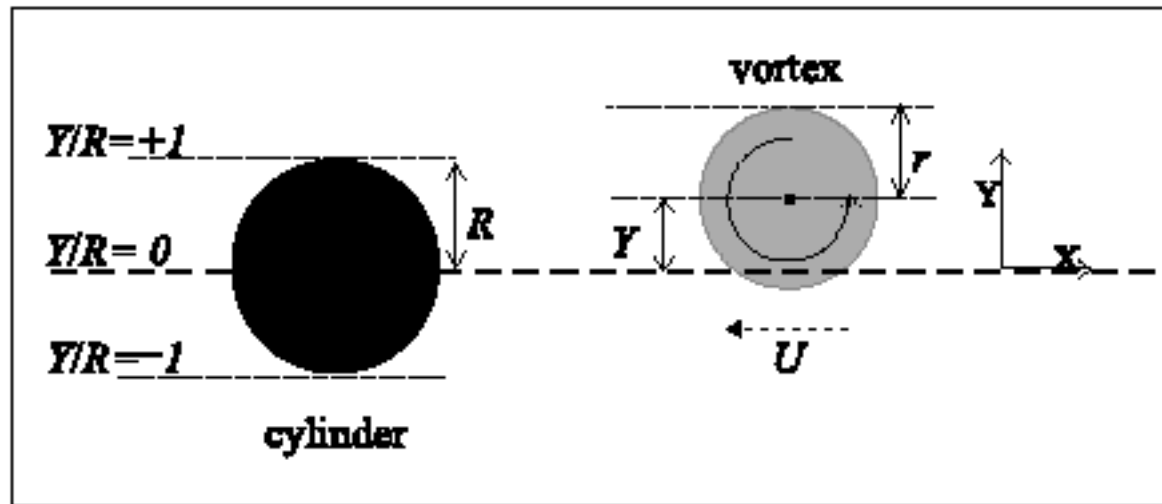
Island as eddy splitters



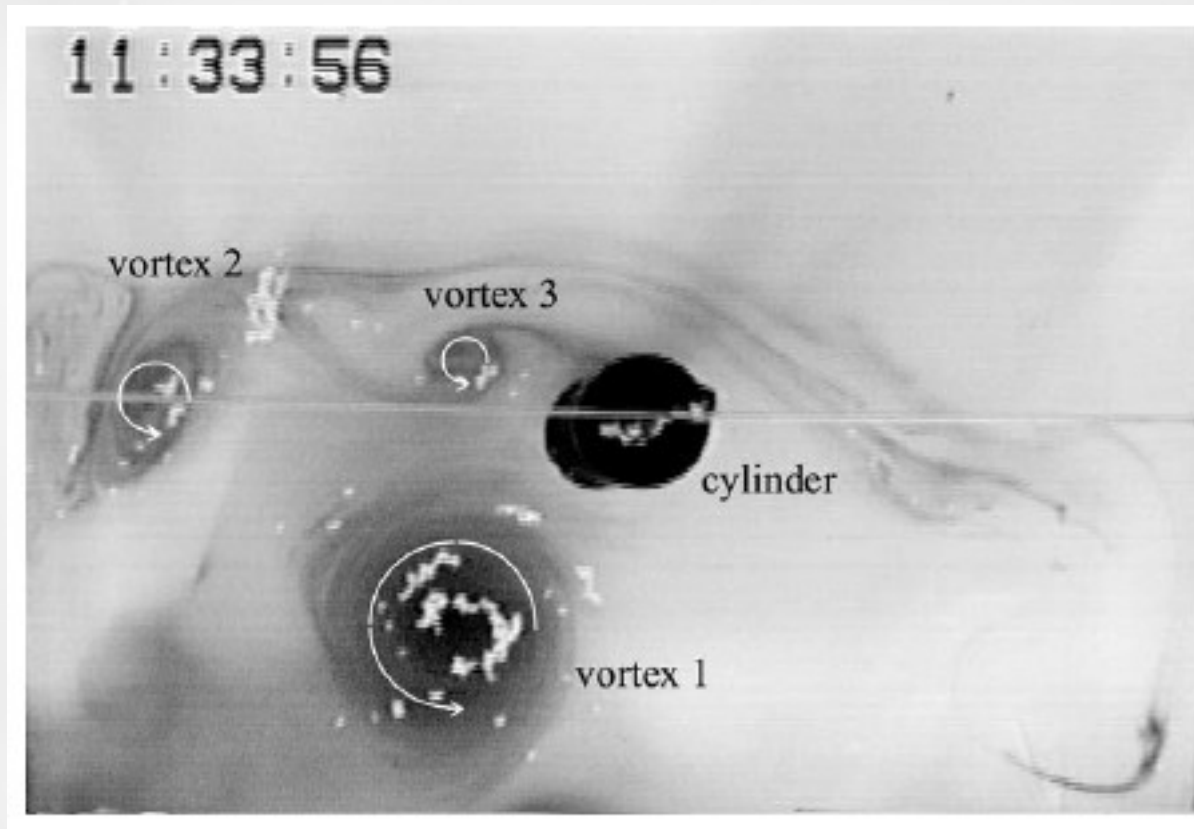
Laboratory setup I



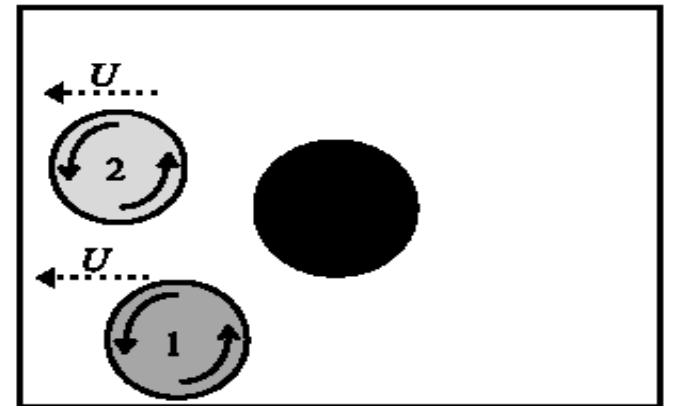
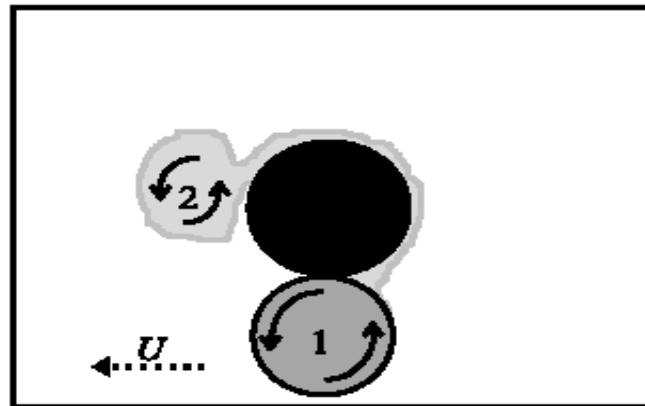
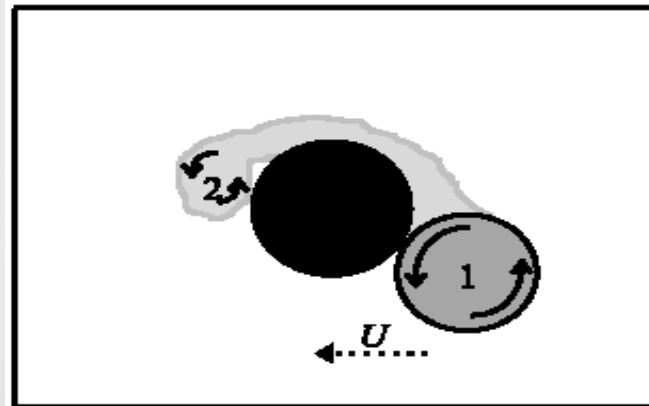
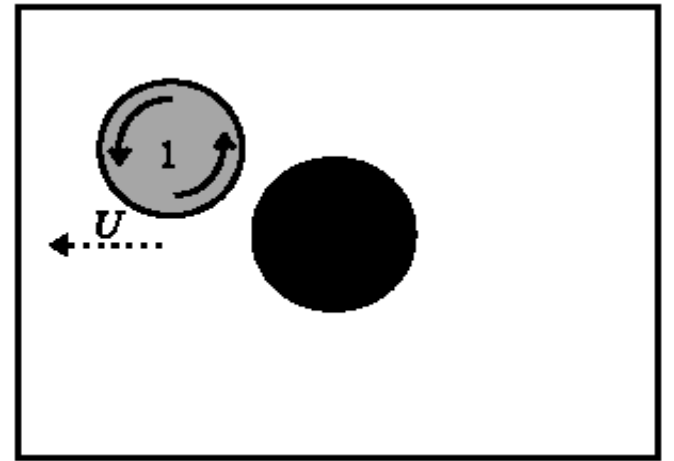
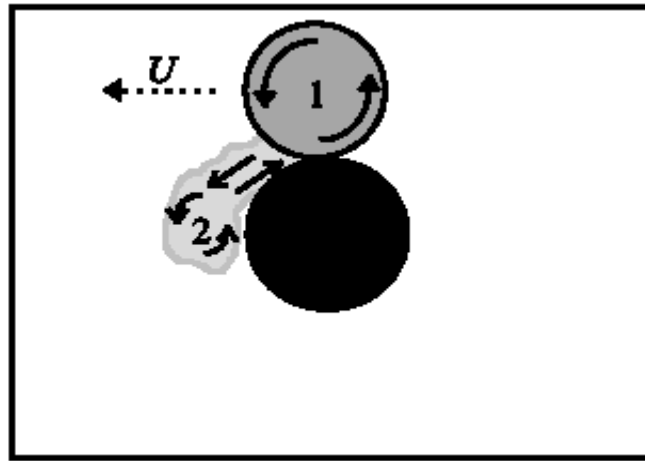
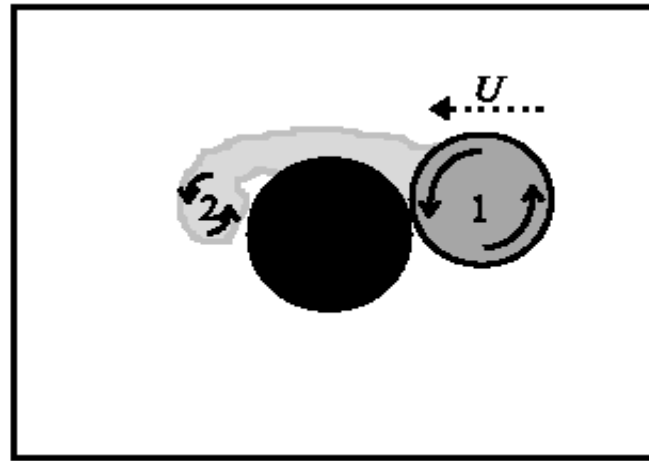
Setup geometry



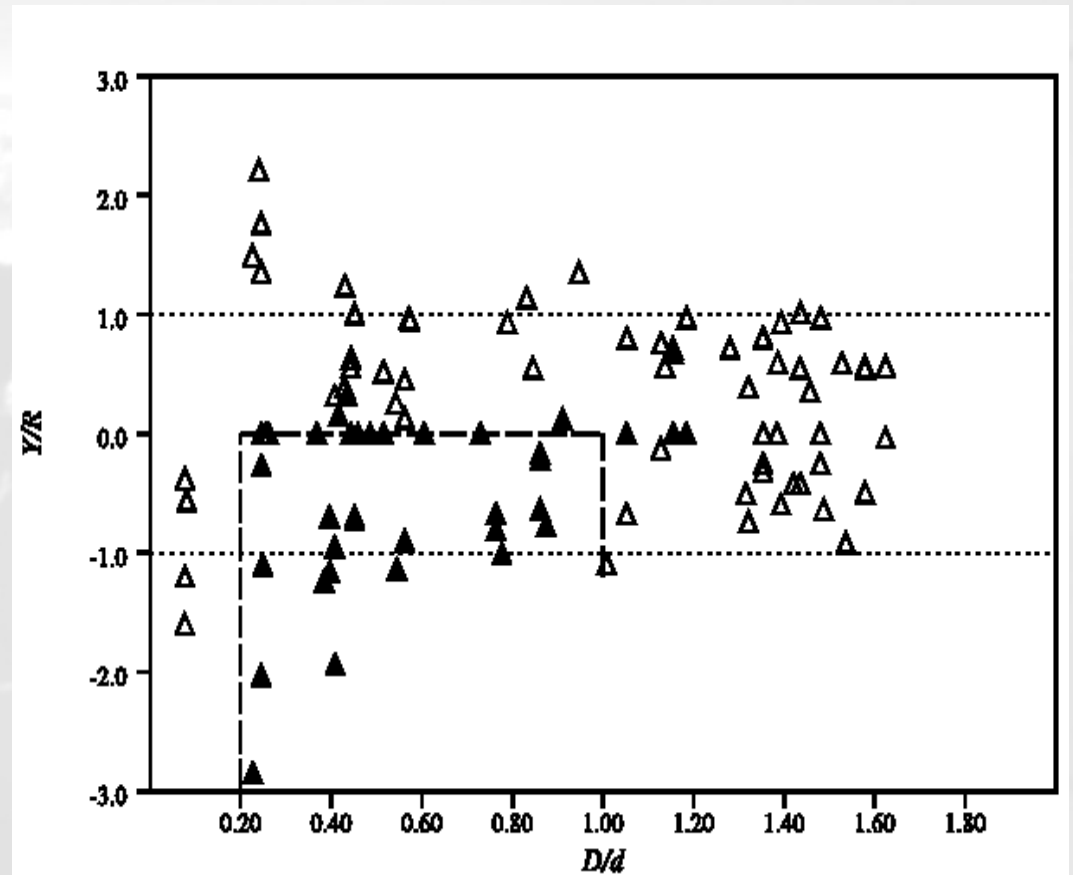
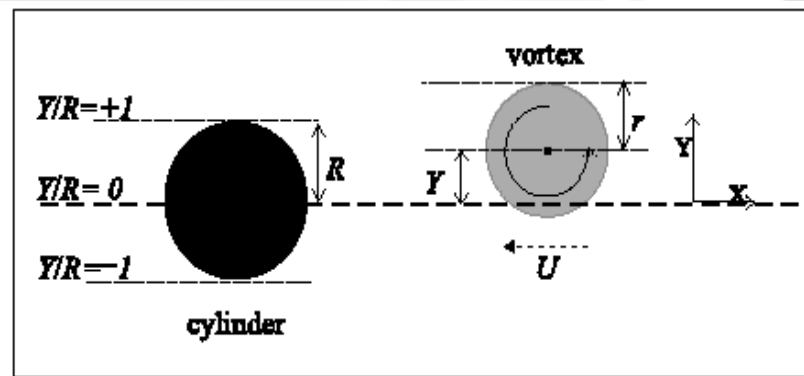
Eddy cylinder interaction

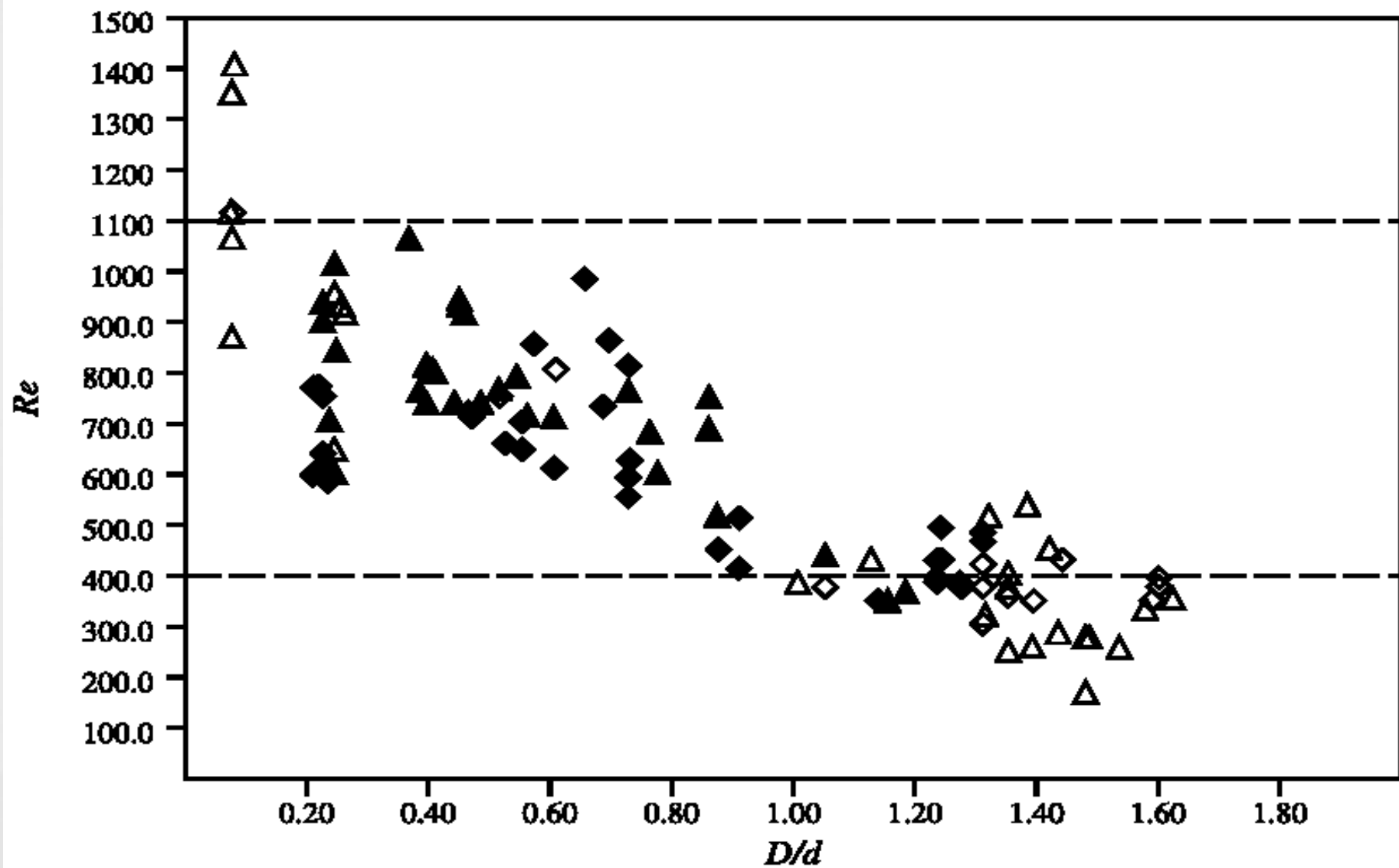


Eddy cylinder interaction

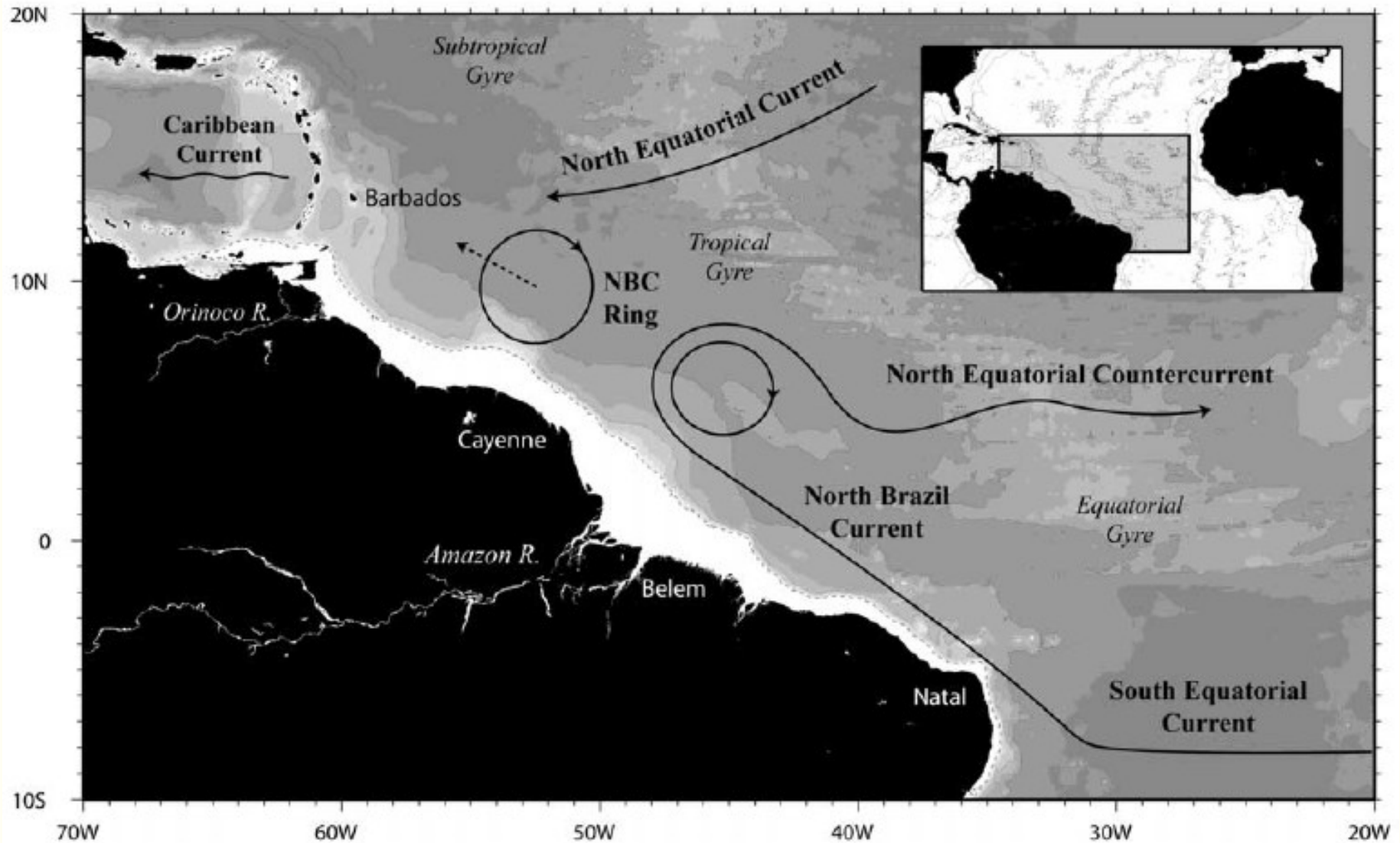


Vortex bifurcation

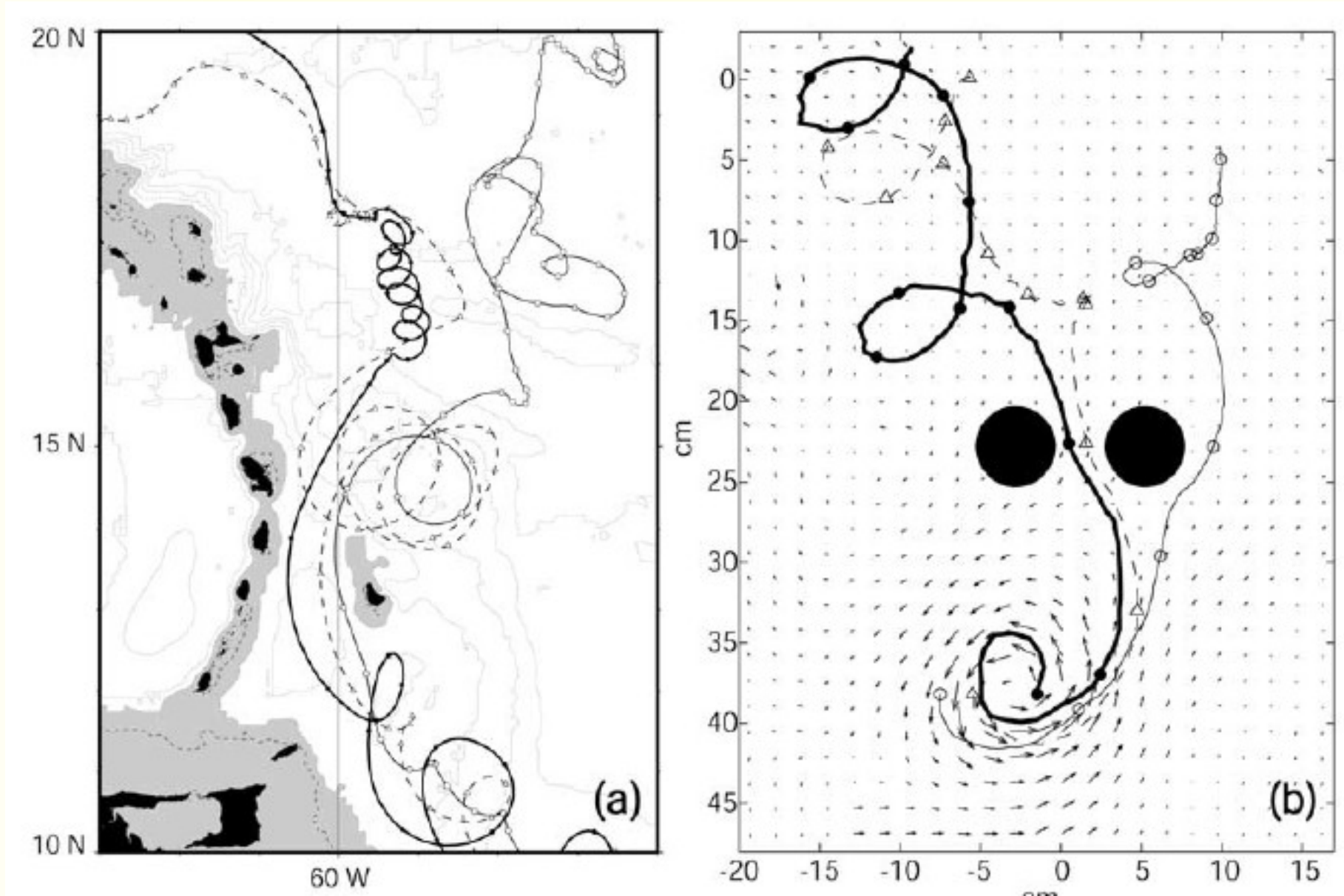




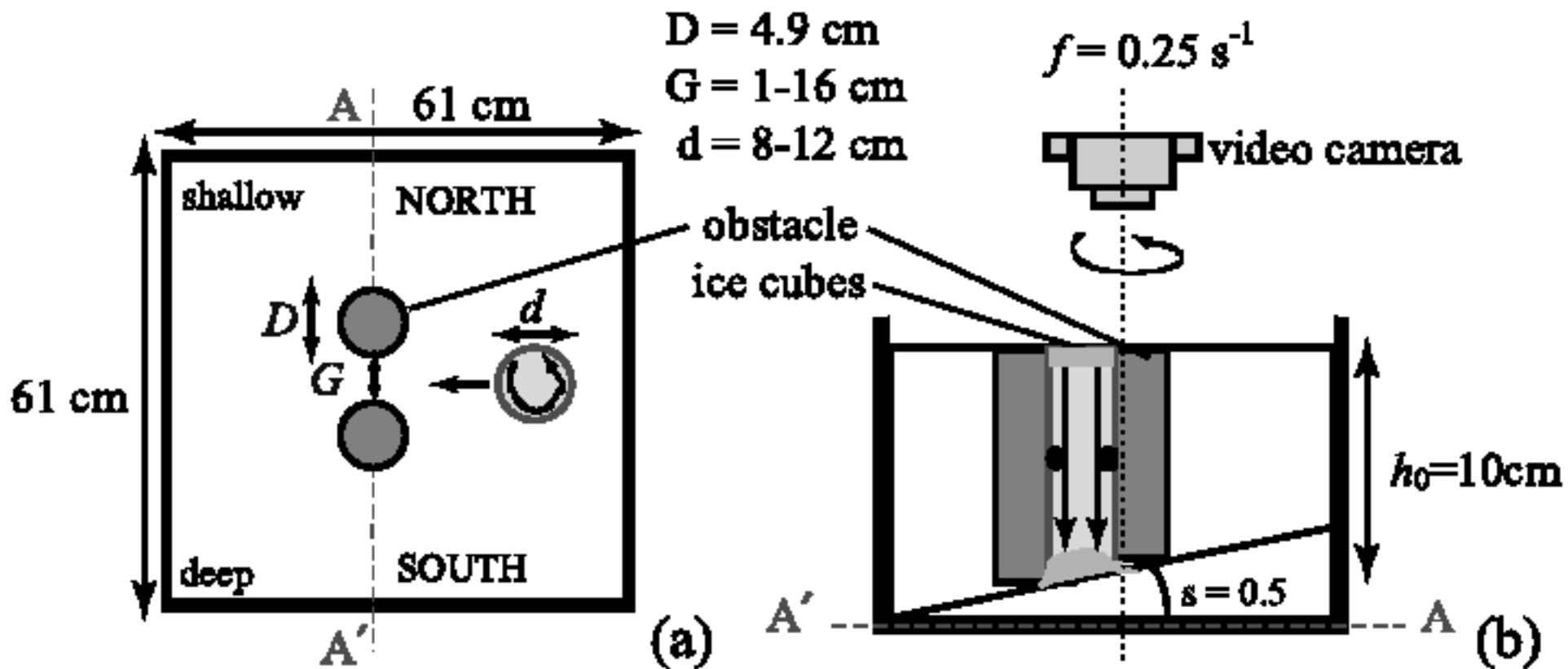
North Brazil Current (NBC) eddies



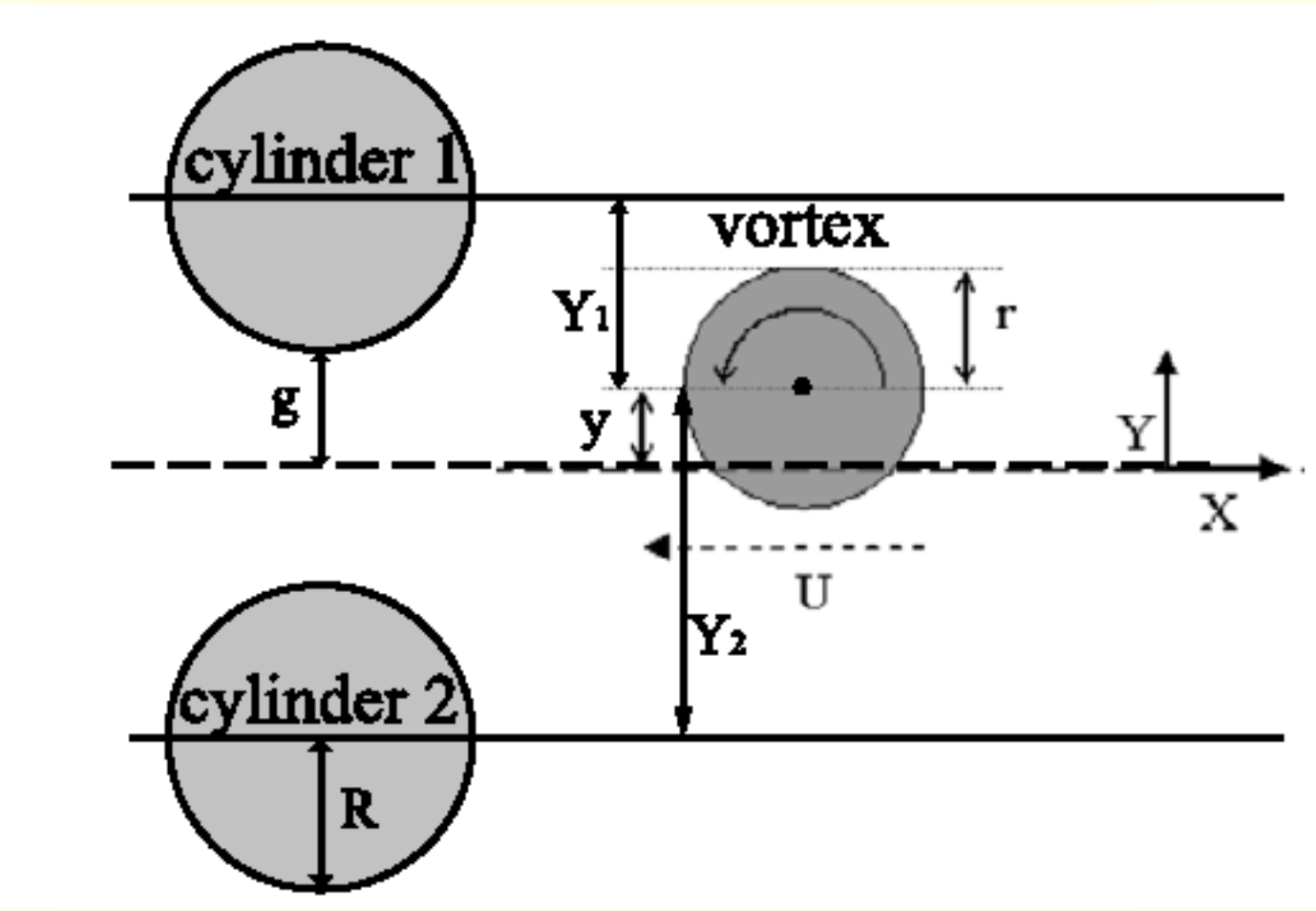
NBC island interaction



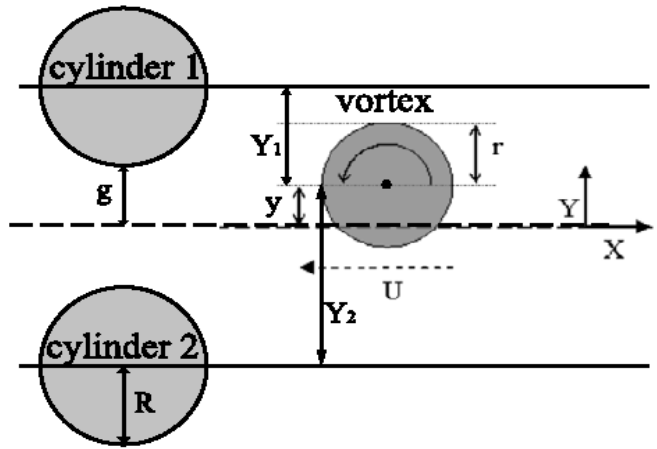
Laboratory setup



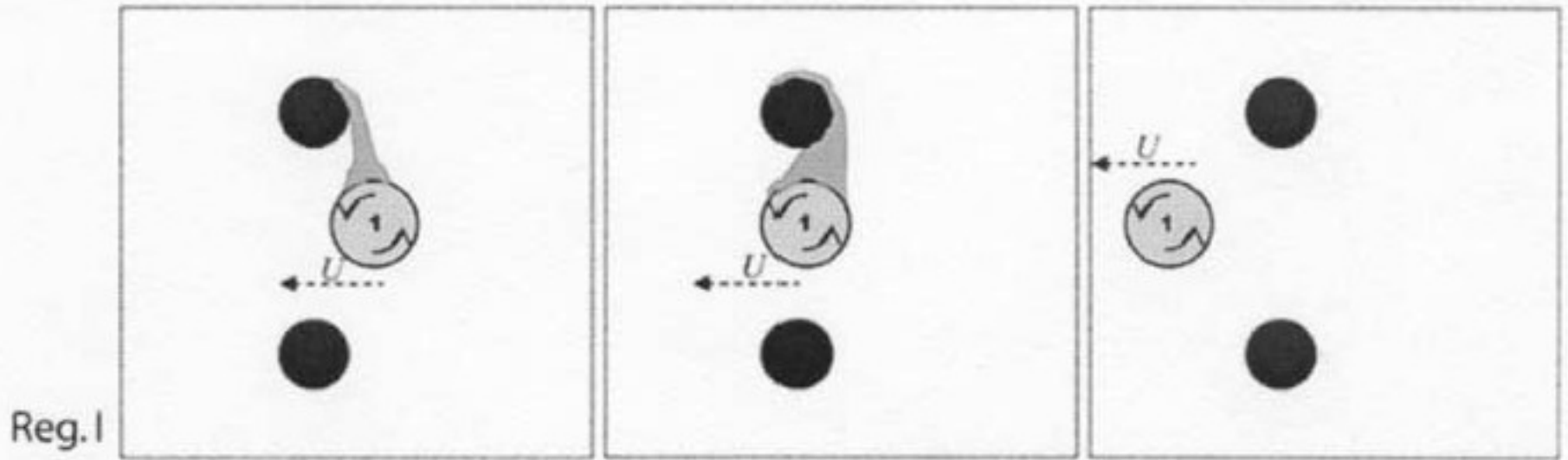
Setup geometry



Experimental results - regime I



$G/d > 0.6 \Rightarrow$ No bifurcation

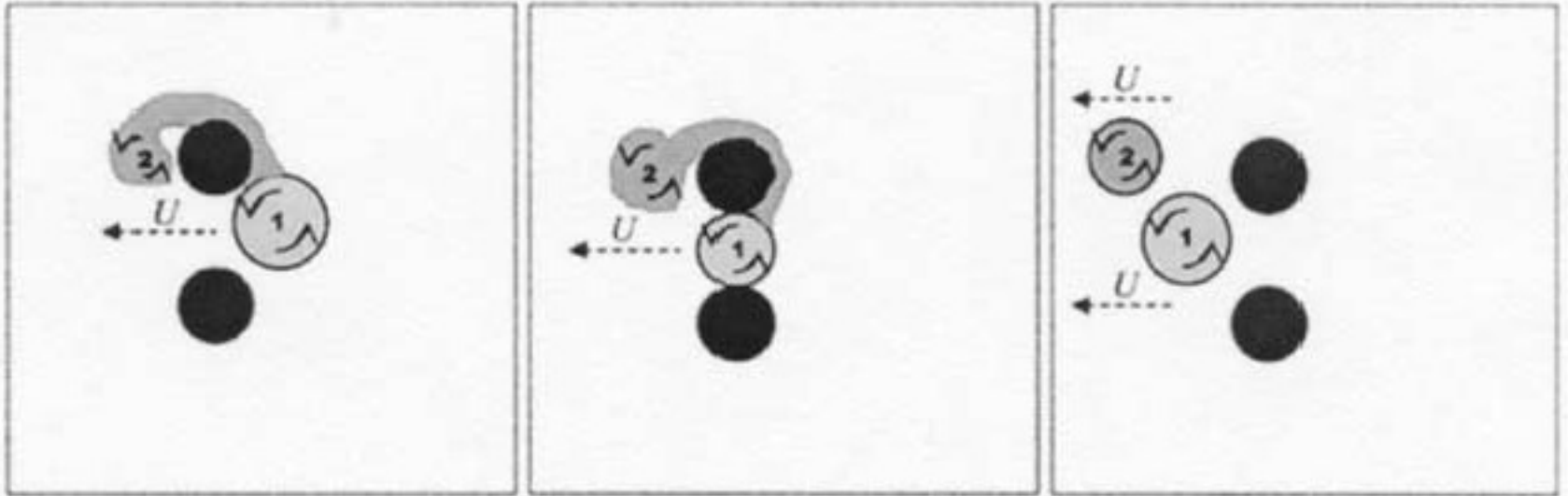


Reg. I

Experimental results – regime II

$0.45 \leq G/d \leq 0.6 \Rightarrow$ Bifurcation

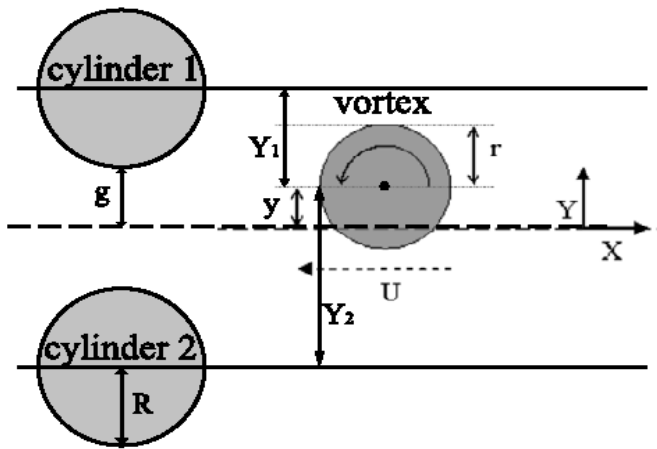
Reg. II



Reg. II



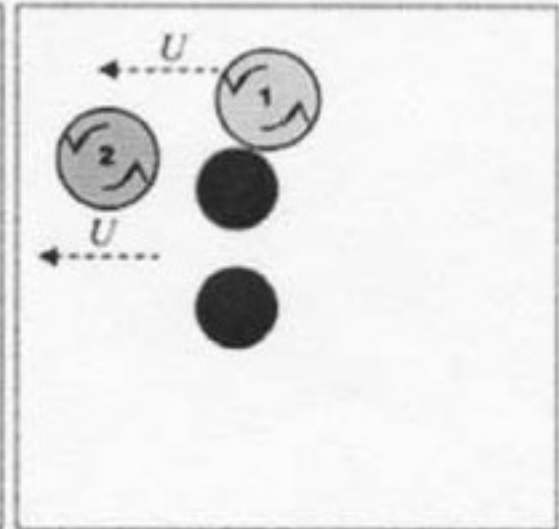
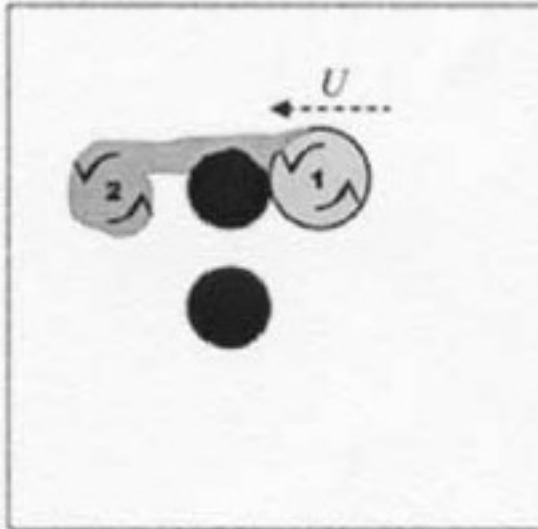
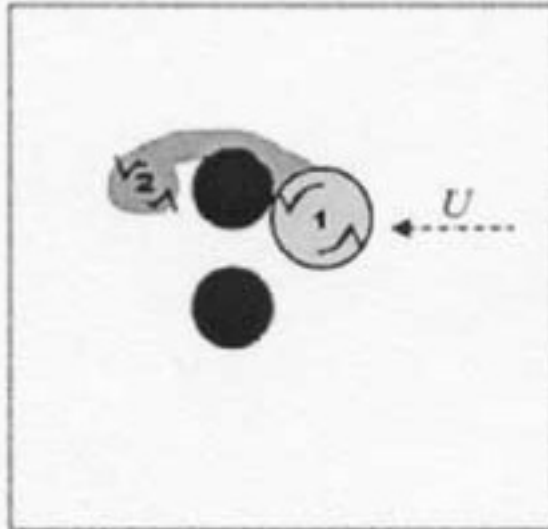
Experimental results - regime III



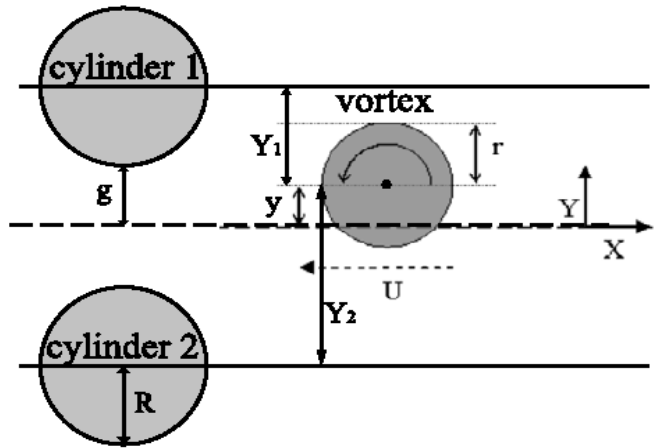
$$0 \leq G/d \leq 0.15, 0.15 \leq G/d \leq 0.45$$

$y/g > 1 \Rightarrow$ Bifurcation

Reg. III



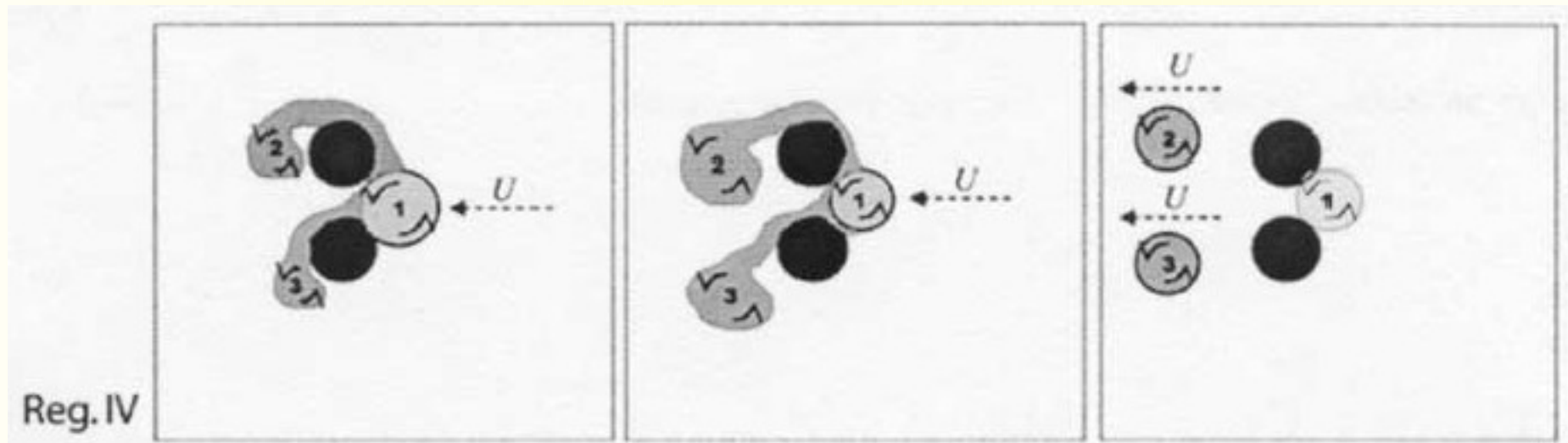
Experimental results – regime IV



$$0.15 \leq G/d \leq 0.45$$

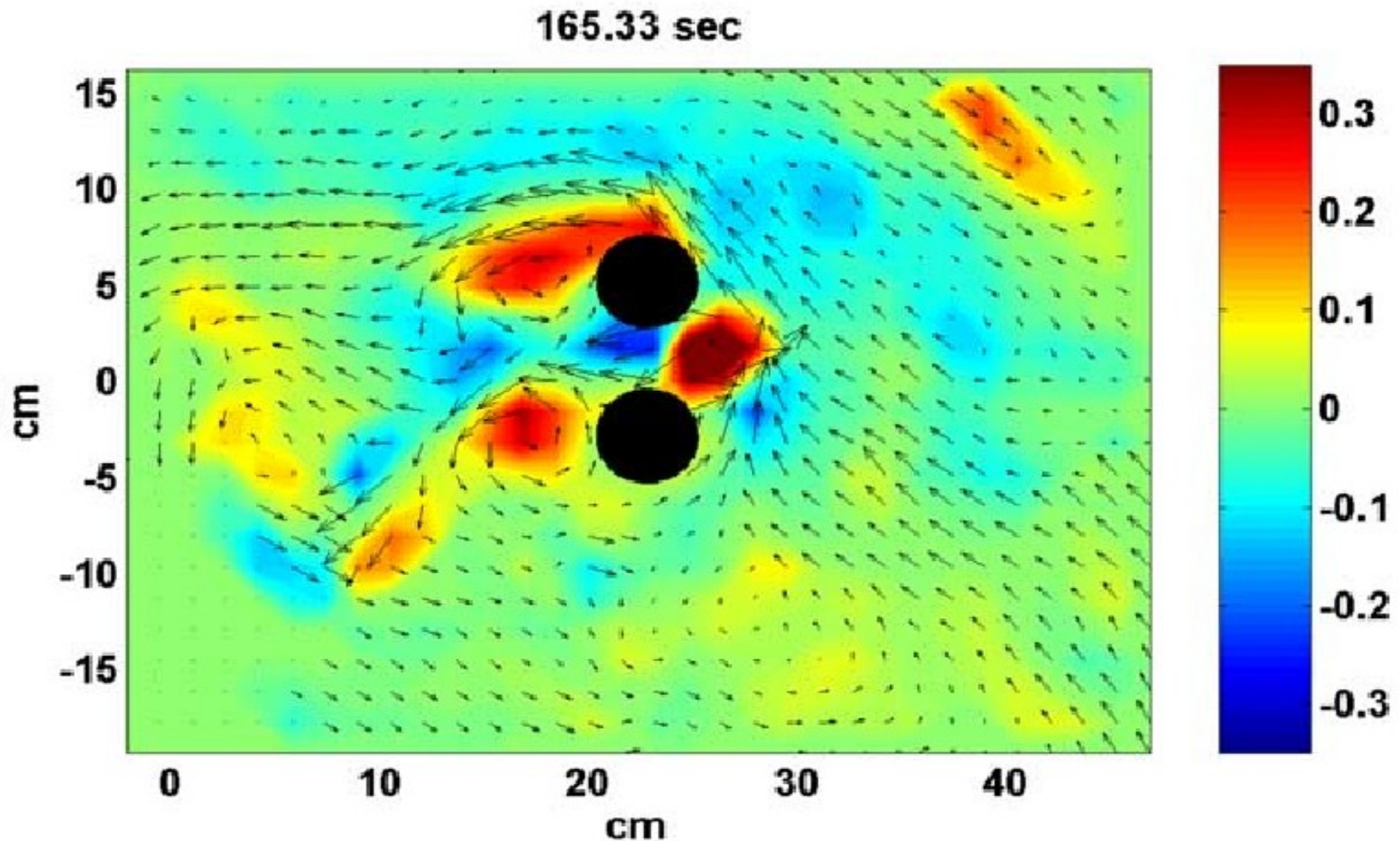
$$-3 \leq y/g \leq 1$$

=> Bifurcation

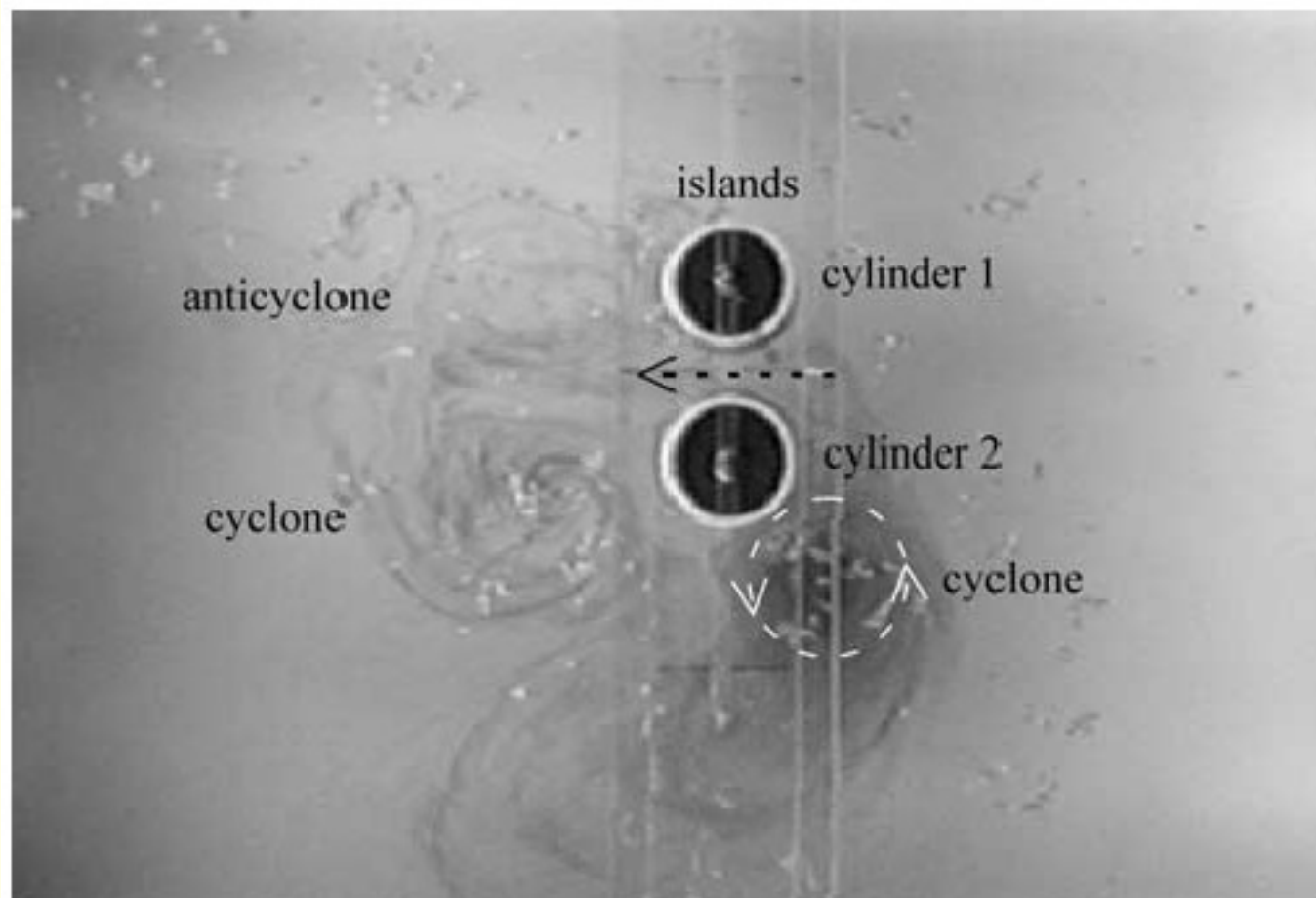


Reg. IV

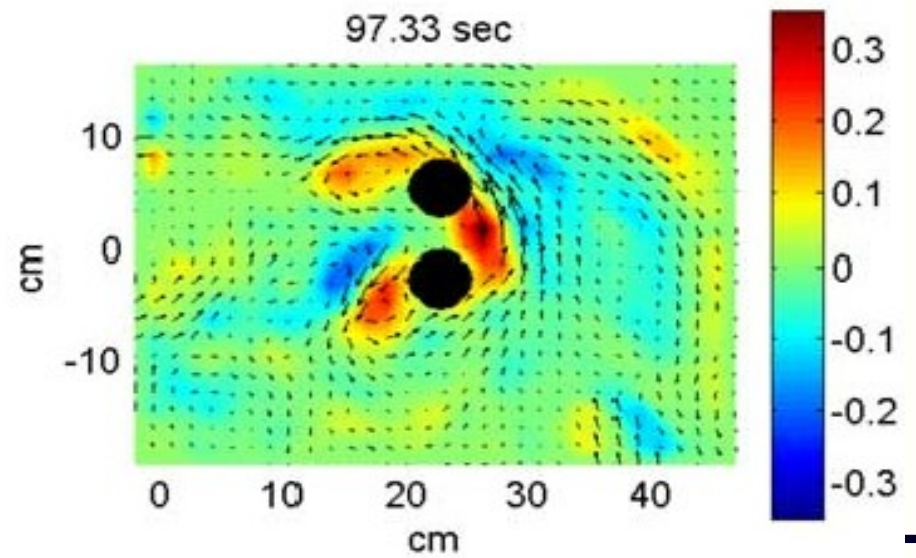
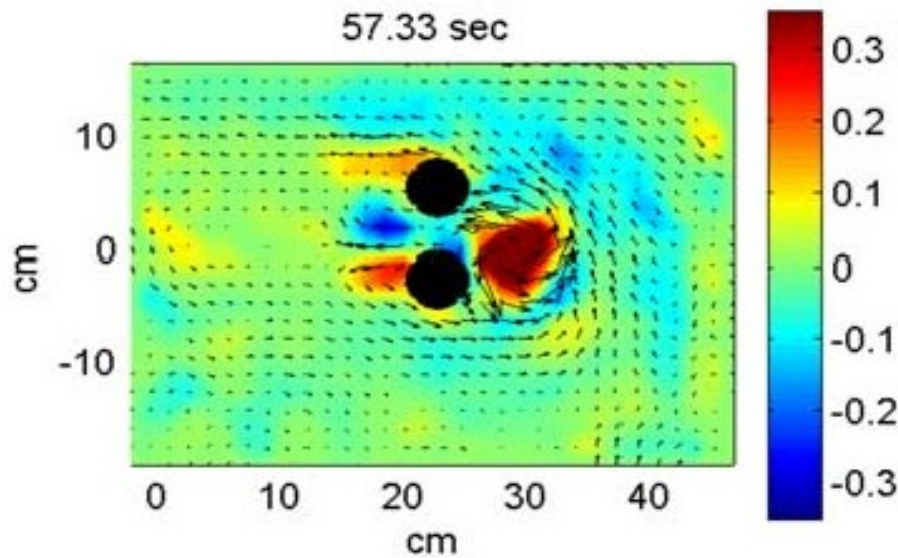
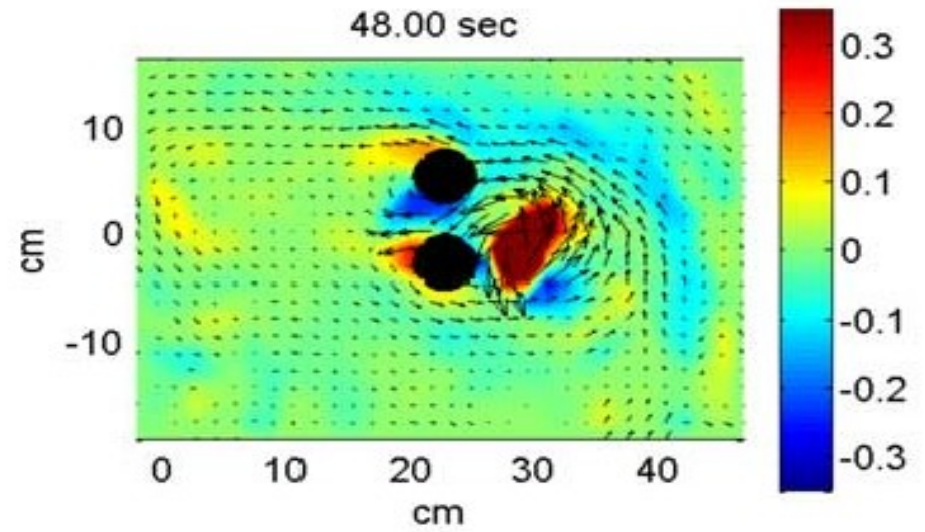
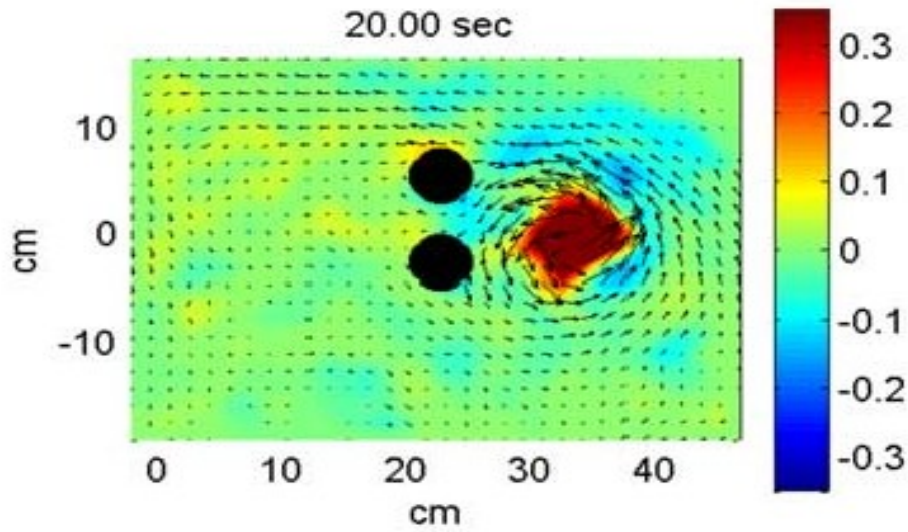
Cyclonic vortex formation



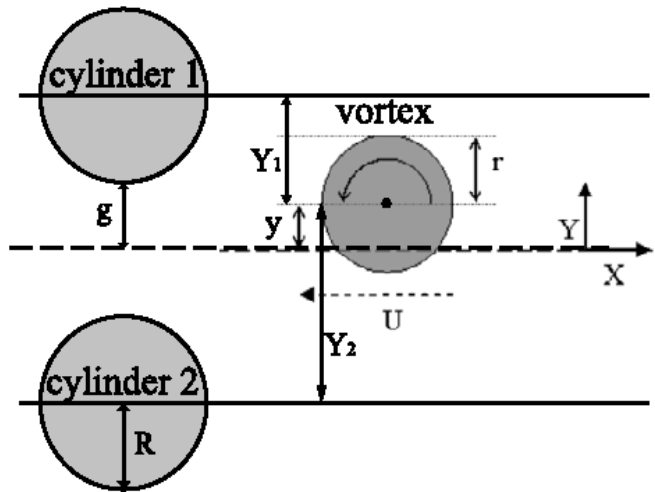
Dipole eddy formation



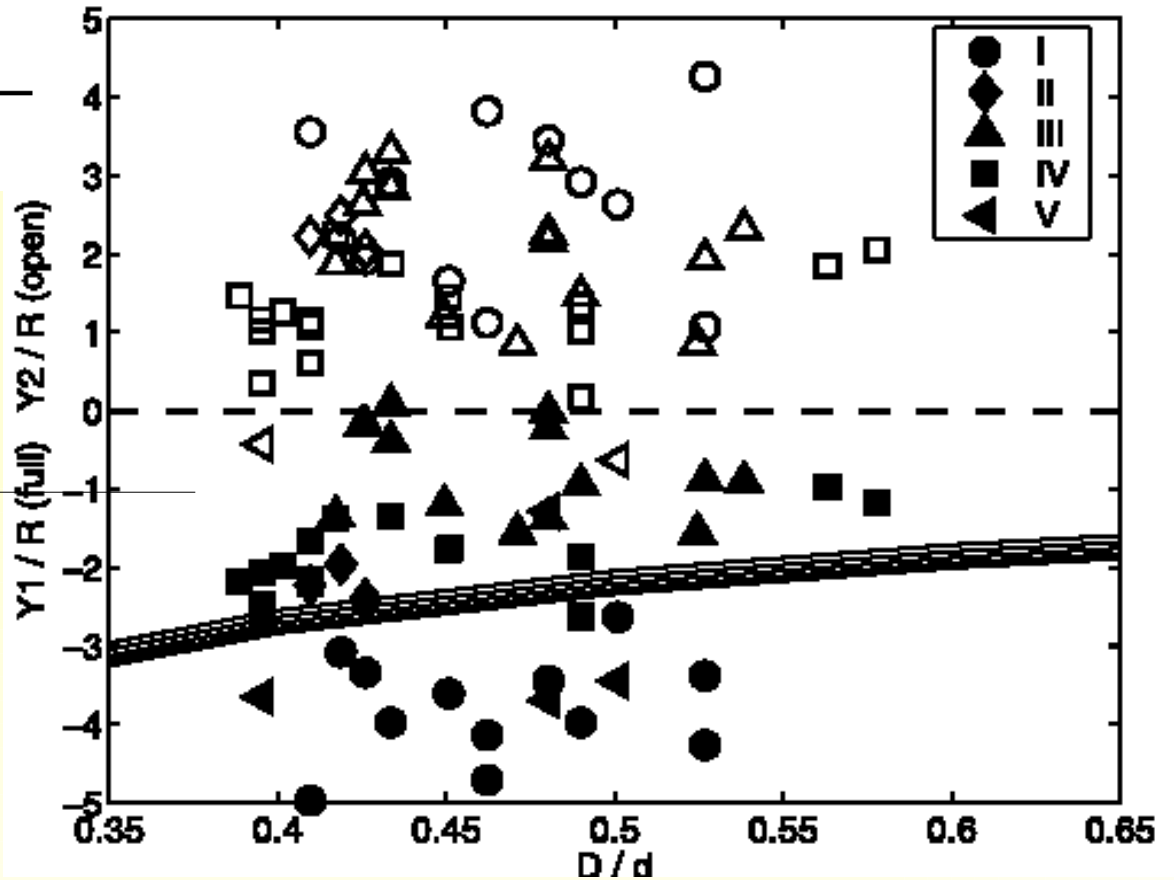
Dipole eddy formation



Regime diagram & eddy bifurcation



Bifurcation



Re & Dipole vortex formation

