

$$\Delta a_0 = 0.0003$$

ring mass  $m_r$

$10^{-8}$

$10^{-9}$

$10^{-10}$

$10^{-12}$

$10^{-11}$

$10^{-10}$

viscosity  $\nu_s$

- $\times$  crossed streamlines
- $\Delta q < 10^{-3}$
- $10^{-3} < \Delta q < 10^{-2}$
- $\Delta q > 10^{-2}$
- ★ unconfined

225

340

240

455

575

690