

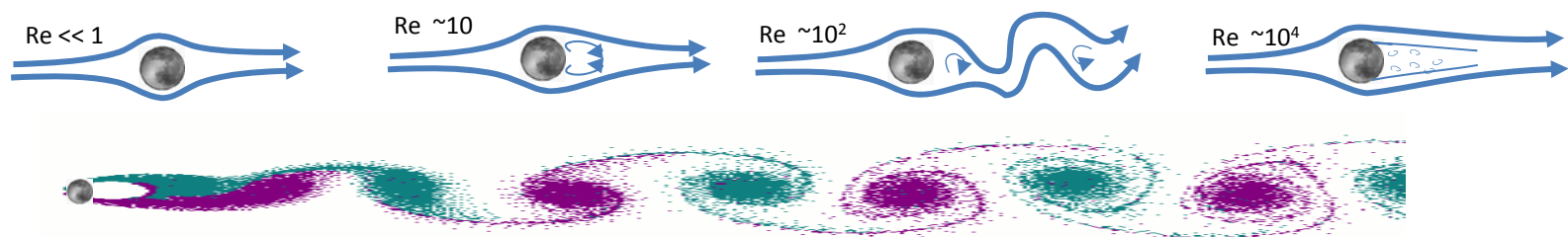


# Waves in LLBL and Lunar Wake

Sheng-Hsien Chen

## My findings and things can be done

- Lack of periodicity ULF (  $\sim 1$ - 60 min) surface waves – smaller amplitudes, long period swing of the tail, orbital bias, etc.
- Presence of kinetic waves in LLBL and lunar wake (kinetic Alfvén wave, ion cyclotron wave, magnetosonic wave, lower hybrid waves, whistler wave, etc.)
- Study of kinetic Kelvin-Helmholtz instability , lower-Hybrid instabilities, kinetic ballooning/interchange instability, and reconnection.
- Estimate of scale lengths (  $L$  ), anomalous resistivity - LHDW (  $\eta$  ), diffusion coefficients (  $D_{\alpha\alpha}$  ), and Lundqvist number (  $\mu_o L V_A / \eta$  ).



Reynolds number (Inertial/Viscous)  $\sim 40$  and  $10^3$

From Tansley, Claire E.; Marshall, David P. (2001).



