

SCMS Seminar



A DIFFERENTIAL EQUATION FOR THE OCEAN FLOW

IN ARCTIC GYRES

Prof. Jifeng Chu

Shanghai Normal University

Lecture

Time: 3:00-4:00 pm., Friday, Oct. 13, 2017

Venue: Room 2201, East Main Guanghua Tower, Handan Campus

Abstract: A differential equation was obtained to describe the arctic gyres. Based on the functional-analytic approach, the existence of (monotone) non-trivial solutions with a vanishing azimuthal velocity was proved.

$$b_i - \left(\sum_{j=1}^{i-1} a_{ij} x_j^{(k)} + \sum_{j=i+1}^n a_{ij} x_j^{(k)} \right)$$

$$\Delta y_i = \int_{x_i}^{x_{i+1}} \frac{a_{ij} y'_i - \left(\sum_{j=1}^{i-1} a_{ij} x_j^{(k)} + \sum_{j=i+1}^n a_{ij} x_j^{(k)} \right)}{a_{ii}} dx$$

$$\int_{x_k}^{x_{k+1}} f(x, y) dx = \int_{x_k}^{x_{k+1}} y' dx = y(x)$$

$$-\sqrt{(y_n + 0.5\tau k_1)^2 + (t_n + 0.5\tau)^2}$$