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# Lecture Series

## Some problems on the neutron transport equation

*Prof. Xiongfeng YANG*  
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**Abstract:** In the talks, some new results about the neutron transport equation will be presented. I focus on the geometric correction for the diffusion limit of the neutron transport equation in disk and in annuli. The BV-regularity of the solution in non-convex domain will be also showed. It will be divided into the following parts:

1. Introduction of the neutron transport equation and the existence of the solutions;
2. The analysis of the asymptotic behavior of the solution and the Milne problem about the boundary layer problem;
3. The estimates of the remained part and the completeness of the diffusion limit for the neutron transport equation;
4. The BV-regularity of the solution for the neutron transport equation in non-convex domain with diffusive boundary condition.

### Lecture 1

Date: 17 August 2016 (Wednesday)

Time: 3:00 pm – 5:00 pm

Venue: Room 222, Lady Shaw Building, The Chinese University of Hong Kong

### Lecture 2

Date: 19 August 2016 (Friday)

Time: 3:00 pm – 5:00 pm

Venue: Room 222, Lady Shaw Building, The Chinese University of Hong Kong

### Lecture 3

Date: 24 August 2016 (Wednesday)

Time: 3:00 pm – 5:00 pm

Venue: Room 222, Lady Shaw Building, The Chinese University of Hong Kong

### Lecture 4

Date: 26 August 2016 (Friday)

Time: 3:00 pm – 5:00 pm

Venue: Room 222, Lady Shaw Building, The Chinese University of Hong Kong

*All are Welcome!*