

MATH 517

TOPICS on PARTIAL DIFFERENTIAL EQUATIONS

Term 2 (Jan-April 2015)

<http://www.math.ubc.ca/~jcwei/MATH517-2014.html>

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Topic prerequisites: Introduction to PDE or Han-Lin's book or Gilbarg-Trudinger's book (Chapter 1 to Chapter 9)

Topics

- Maximum Principle and the Method of Moving Planes
- Liouville and De Giorgi type Theorems
- Monotonicity Formula and its Applications
- Gluing Method I: Finite-dimensional reduction (subcritical case)
- Gluing Method II: Finite-dimensional reduction (critical case)
- Gluing Method III: Infinite-dimensional reduction (non-resonance case)
- Gluing Method IV: Infinite-dimensional reduction (resonance case)