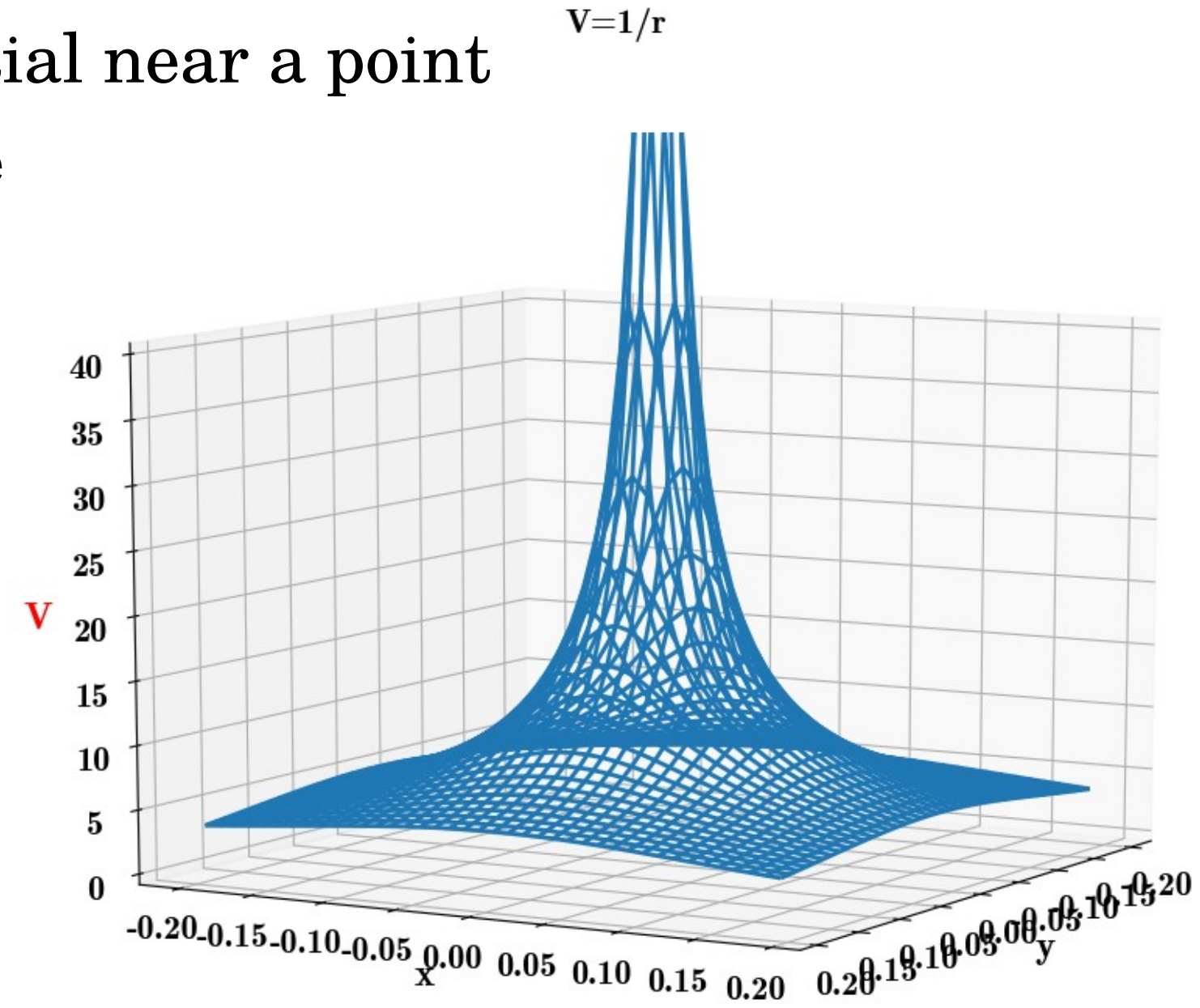
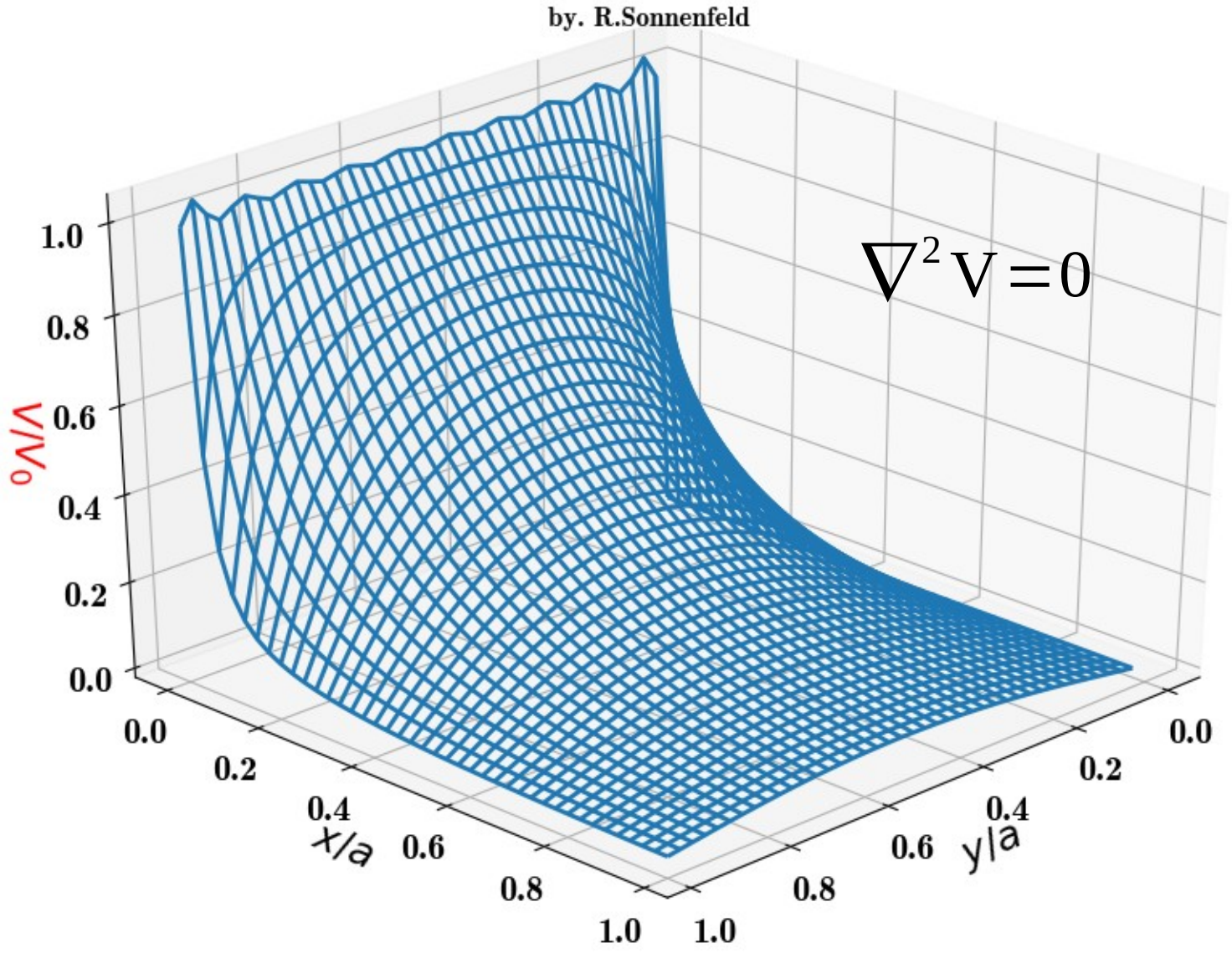
Lecture 18 outline:

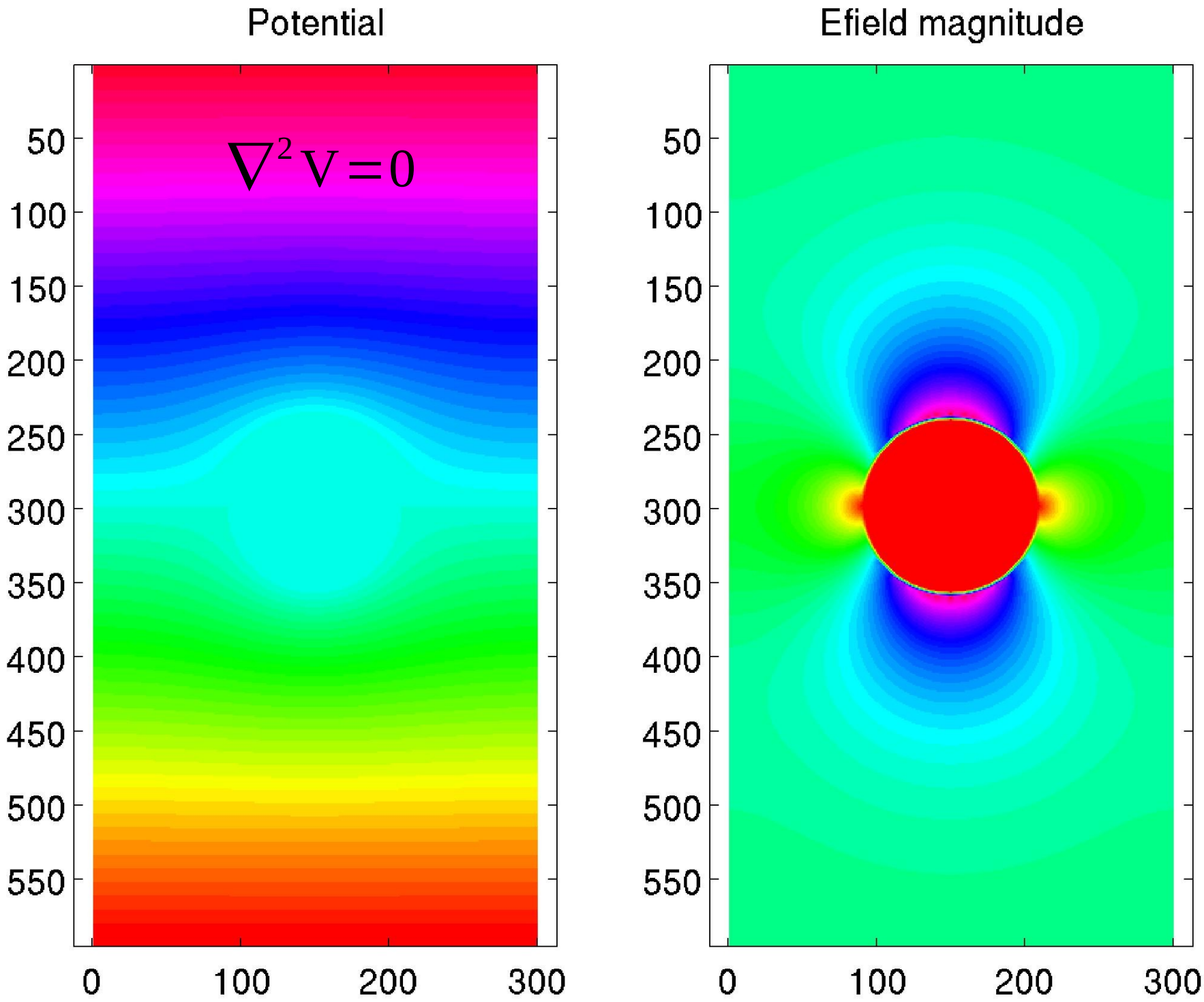
- Method of Images
  - Infinite plane
  - Power lines
- Reading Questions
  - What do you mean no local maxima? What about a positive charge? Jeez ...
  - Who wins in a cage match, Laplace or Gauss?
  - 2nd uniqueness 3.7 and 3.8 wtf?
  - Why are there no examples of Laplace in 3D?
  - How many constants do you need for a PDE?
  - Is there a general solution for Laplace?
  - Help! I am lost in a sea of theory!

Potential near a point charge



Griffiths Figure 3.18





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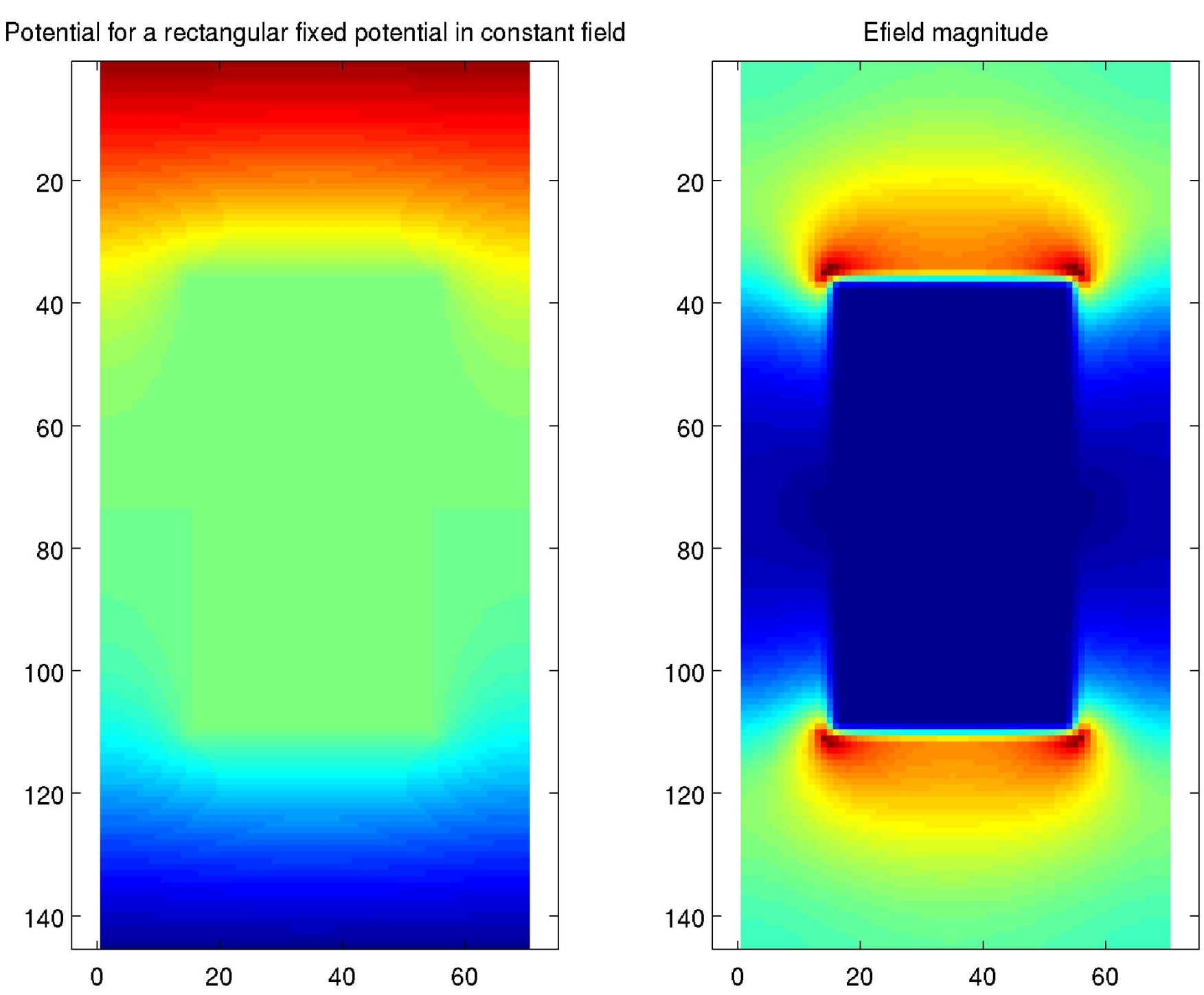

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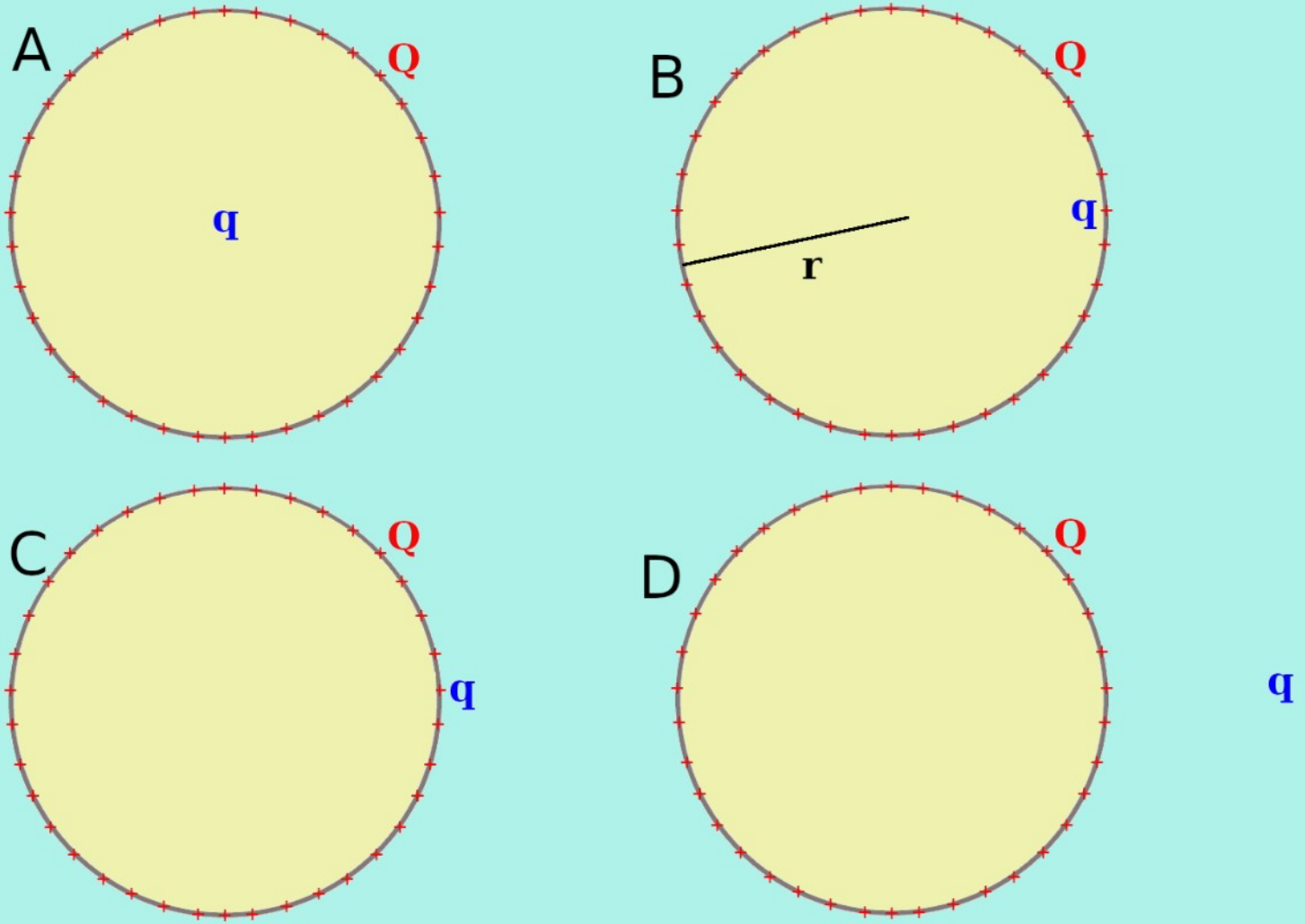
Method of Images (point charge over conductor)

Method of Images (line charge over conductor)



(A) i : F = 0, ii : F ~ 0, iii : F ~ 0, iv : F = k qQ/r^2

(B) i : F = 0, ii : F = 0, iii : F ~ 0, iv : F = k qQ/r^2

(C) i : F = 0, ii : F = 0, iii : F = 0, iv : F = k qQ/r^2

(D) i : F = 0, ii : F = 0, iii : F = k qQ/r^2, iv : F = k qQ/r^2