

Random Matrices, Related Topics and Applications  
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## Outpost colonization in random matrix theory

**Seung-Yeop Lee**  
Centre de Recherches Mathématiques (CRM)  
Université de Montréal  
C.P. 6128, succ. Centre-ville  
Montréal (Québec), H3C 3J7  
CANADA

leeseung@CRM.UMontreal.CA

### **Abstract**

We describe a critical case in the double scaling limit of the Hermitian matrix model, where a few eigenvalues form an isolated colony away from the other infinite number of eigenvalues. We describe in detail the transition when the size of the colony changes by one. The analysis is based on the Riemann-Hilbert method, and on the “partial Schlesinger” transformation to improve the error bound.

**This is joint work with Marco Bertola.**