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2.5.1 Failure of Techniques Dealing with Hermitian Matrices  
2.5.2 Revisit of Stieltjes Transformation; 2.5.3 A Partial Answer to the Circular Law; 2.5.4 Comments and Extensions of Theorem 2.33; 3  
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3.2.1 Spectral Radius; 3.3 Spectrum Separation; 3.4 Tracy-Widom Law;  
3.4.1 TW Law for Wigner Matrix; 3.4.2 TW Law for Sample Covariance Matrix; 4 Central Limit Theorems of Linear Spectral Statistics; 4.1 Motivation and Strategy; 4.2 CLT of LSS for Wigner Matrix; 4.2.1 Outlines of the Proof  
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6.2.4 Linearly Precoded Systems; 6.3 Channel Capacity for MIMO Antenna Systems; 6.3.1 Single-Input Single-Output Channels; 6.3.2 MIMO Fading Channels; 6.4 Limiting Capacity of Random MIMO Channels; 6.4.1 CSI-Unknown Case; 6.4.2 CSI-Known Case; 6.5 Concluding Remarks; 7 Limiting Performances of Linear and Iterative Receivers; 7.1 Introduction; 7.2 Linear Equalizers; 7.2.1 ZF Equalizer; 7.2.2 Matched Filter (MF) Equalizer; 7.2.3 MMSE Equalizer; 7.2.4 Suboptimal MMSE Equalizer; 7.3 Limiting SINR Analysis for Linear Receivers; 7.3.1 Random Matrix Channels  
7.3.2 Linearly Precoded Systems

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Sommario/riassunto

The book contains three parts: Spectral theory of large dimensional random matrices; Applications to wireless communications; and Applications to finance. In the first part, we introduce some basic theorems of spectral analysis of large dimensional random matrices that are obtained under finite moment conditions, such as the limiting spectral distributions of Wigner matrix and that of large dimensional sample covariance matrix, limits of extreme eigenvalues, and the central limit theorems for linear spectral statistics. In the second part, we introduce some basic examples of applications of ra

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