

# **Handoffs In Hierarchical Macro/Femto Network**



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Harinath Aireddy, Prasanna K. Singh**



# Handoffs in Hierarchical Macro/Femto Networks

**First Edition**

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**Iterative International Publishers**

**Title of the Book:** Handoffs in Hierarchical Macro/ Femto Networks

**Edition:** First- 2022

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**E-ISBN: 978-93-92591-26-6**

**MRP: 373/-**

### **Publisher, Printed at & Distribution by:**

Selfypage Developers Pvt Ltd.,  
Pushpagiri Complex,  
Beside SBI Housing Board,  
K.M. Road Chikkamagaluru, Karnataka.  
Tel.: +91-8861518868  
E-mail:info@iiponline.org

**IMPRINT: I I P Iterative International Publishers**

# Preface

The best way to increase the system capacity of a wireless link is by getting the transmitter and receiver closer to each other, which creates the dual benefits of higher-quality links and more spatial reuse. In a network with nomadic users, this inevitably involves deploying more infrastructure, typically in the form of microcells, hot spots, distributed antennas, or relays. A less expensive alternative is the recent concept of femtocells — also called home base stations — which are data access points installed by home users to get better indoor voice and data coverage.

The book has been divided into seven chapters.

In chapter 2, the basics of femto cell, its benefits, comparisons with other small cell networks, its challenges are described.

In chapter 3, handoff and how it is performed in femtocell and the various criterions are shown.

In chapter 4, different path loss models, channel model for femto cellular network are presented and related parameters are simulated.

In chapter 5, handover probabilities and handover failures are examined for macro/femto networks.

In chapter 6, the proposed algorithm is described and its performance in different scenarios are valuated. Numerical results are shown.

In chapter 7, the conclusion is presented.

# Acknowledgements

We wish to express my heartfelt gratitude and thanks to all our teachers and our supervisors for the master's and doctoral program for their committed involvement, insightful discussions, valuable advice, invaluable guidance, supportive encouragement, and more importantly the level of trust that he placed on us throughout the duration of study without which my study and the preparation of this library dissertation would not have been possible.

We sincerely wish to express our gratitude to the researchers at NIT Rourkela from where we received the inspiration to start this work.

We wish to express thanks to Dr. Sandeep Dhariwal, Associate Professor, Department of Electronics and Communication Engineering for his encouragement which made this work possible.

Lastly, we would like to express sincere gratitude to our respective families for their extended support and cooperation.

*Ms. Sonam Bhardwaj*  
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E-ISBN:978-93-92591-26-6



MRP: 373/-