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Title	**Interference Modeling**	
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Re:	Call for Comments on Draft 802.16m Evaluation Methodology Document (IEEE 802.16m-07/023)	
Abstract	This contribution provides simulation results for the adequate number of strongest interferers where frequency selective fading and spatial channel should be modeled.	
Purpose	To incorporate the proposed text changes into the Draft 802.16m Evaluation Methodology Document (IEEE C802.16m-06/080r2)	
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Interference Modeling

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1. Introduction

To reduce the simulation complexity, the number of strongest interferers where frequency selective fading and spatial channel are modeled should be kept to a minimum. In this contribution, we evaluate the adequate number of strongest interferers that need to be modeled.

2. Simulation Results

The performance criterion used is the average spectral efficiency based on Shannon formula. The channels from all 56 interfering sectors to the MS include pathloss, shadowing, and fast fading. Frequency-selective fading is modeled for the I_{strong} strongest interfering sectors, while frequency-flat fading is used for the remaining (56-I_{strong}) weaker interfering sectors. Detailed configurations are listed in Table 1.

Table 1 Simulation Assumptions

Parameters	***Values***
Duplex	Downlink
Number of Cell (3 sectored)	19
Bandwidth of operation	10 MHz
FFT size	256
Carrier Frequency	2 GHz
BS Transmit Power	43 dBm (20 Watts)
Site-to-Site distance	2.5 km
Propagation Model (BTS Ant Ht = 32m, MS = 1.5m)	28.6 + 35log10(d) dB, d in meters
Log-Normal Shadowing	Standard Deviation = 8.9 dB
Base Station Correlation	0.5
Thermal Noise Density	-174 dBm/Hz
Mobile Noise Figure	10 dB
Tapped-Delay-Line	ITU Pedestrian B
Fast Fading Model	Jakes model
Mobile Speed	3 kmh
Antenna Configuration	1x1

The average spectral efficiency CDF curves for 2, 3, 5, 10, 14 strongest interfering sectors are compared and plotted in Figure 1. As observed, using 10 strongest interfering sectors $(I_{strong} = 10)$ should be a good tradeoff between sufficiently modeling the frequency selective fading and effectively reducing computational complexity.

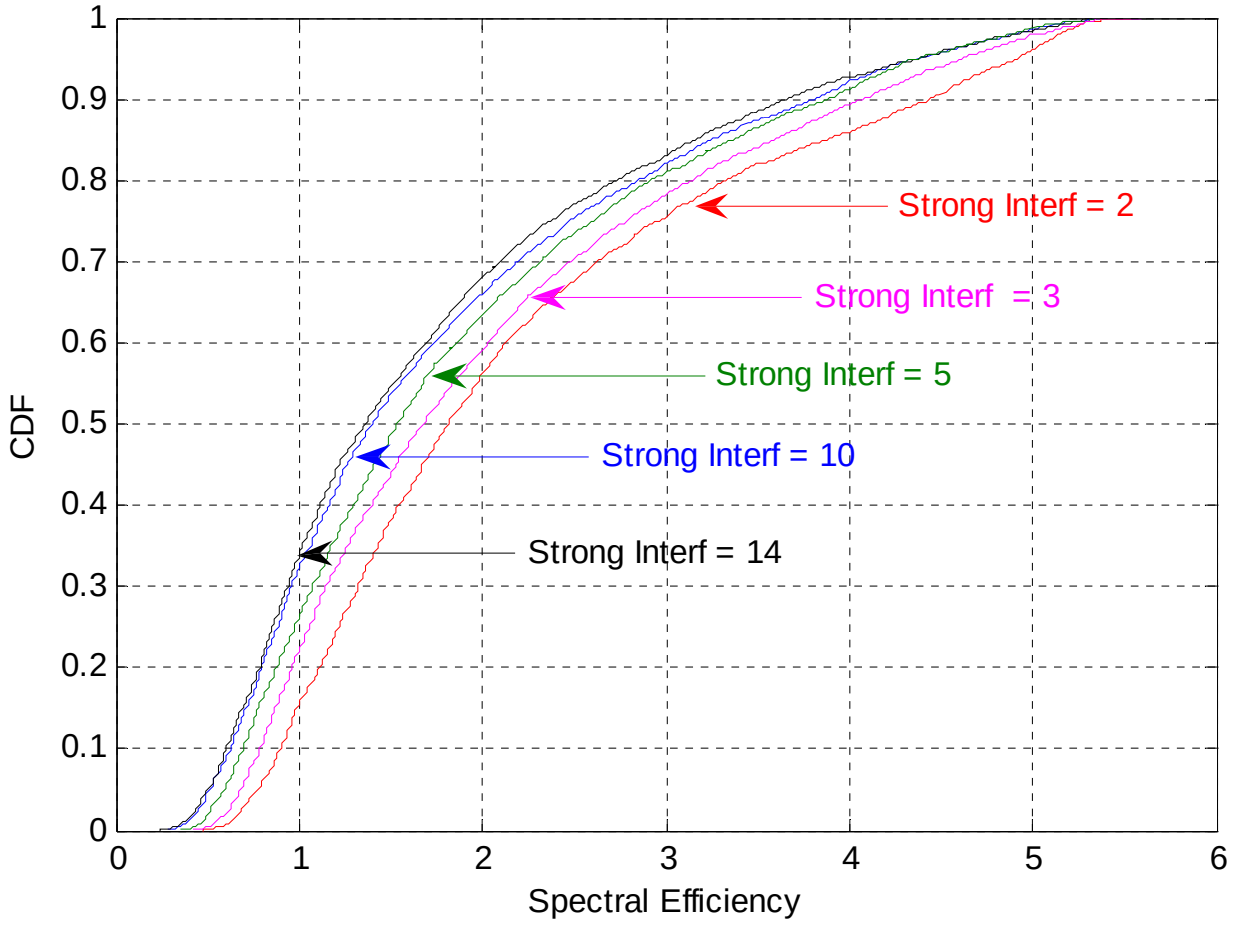

Figure 1 Spectral Efficiency CDFs

3. Proposed Text Change

Based on the simulation results shown in Section 2, we propose to model the 10 strongest interferers for frequency selective fading and spatial channel.

[Modify text on page 103, line 13-14 as follows]

… ~~A~~ For baseline simulation, the ~~typical~~ value ~~for~~ of I_{strong} shall be set to ~~is 14~~ 10.