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NOMENCLATURE

B	band width
C	channel capacity
e	total transmitted power
k	single antenna user
M	Base station antenna
n	additive white Gaussian noise
N	number of radio frequency chain
P	average transmitted power
x	transmitted data
r	received vector
R	achieved sum rate

Greek symbols

λ	geometric distribution
τ	length of pilot sequence

Subscripts

u	number of user
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