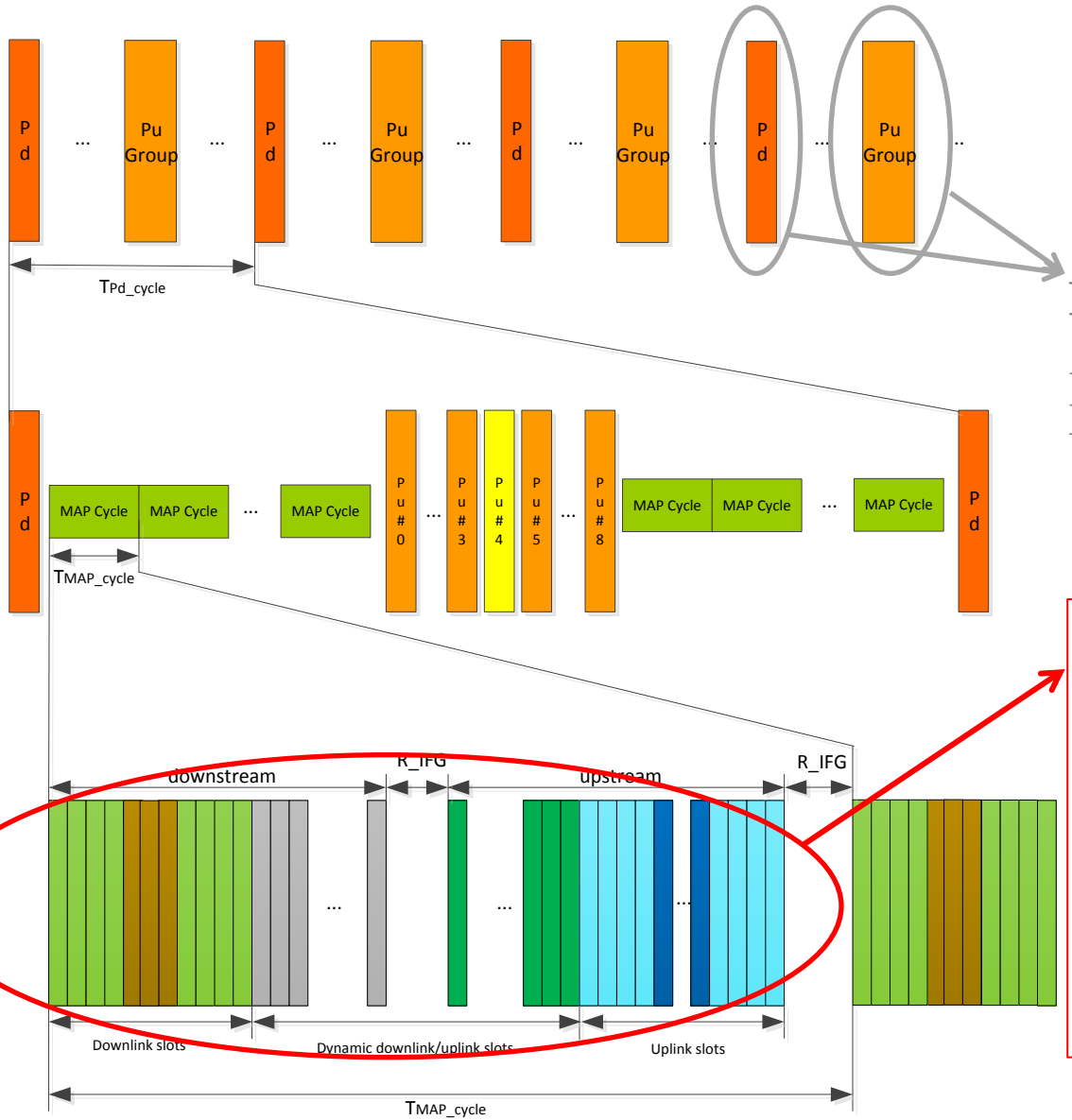
面向NGB的同轴电缆接入技术
HINOC
High performance Network Over Coax

HINOC PHY:
Data Frame & Control Frame Introduction

Zhao Hui
Peking University
2013/12/20



Probe Frames:

Downlink Probe Frame (Pd)
Uplink Probe Frame (Pu)

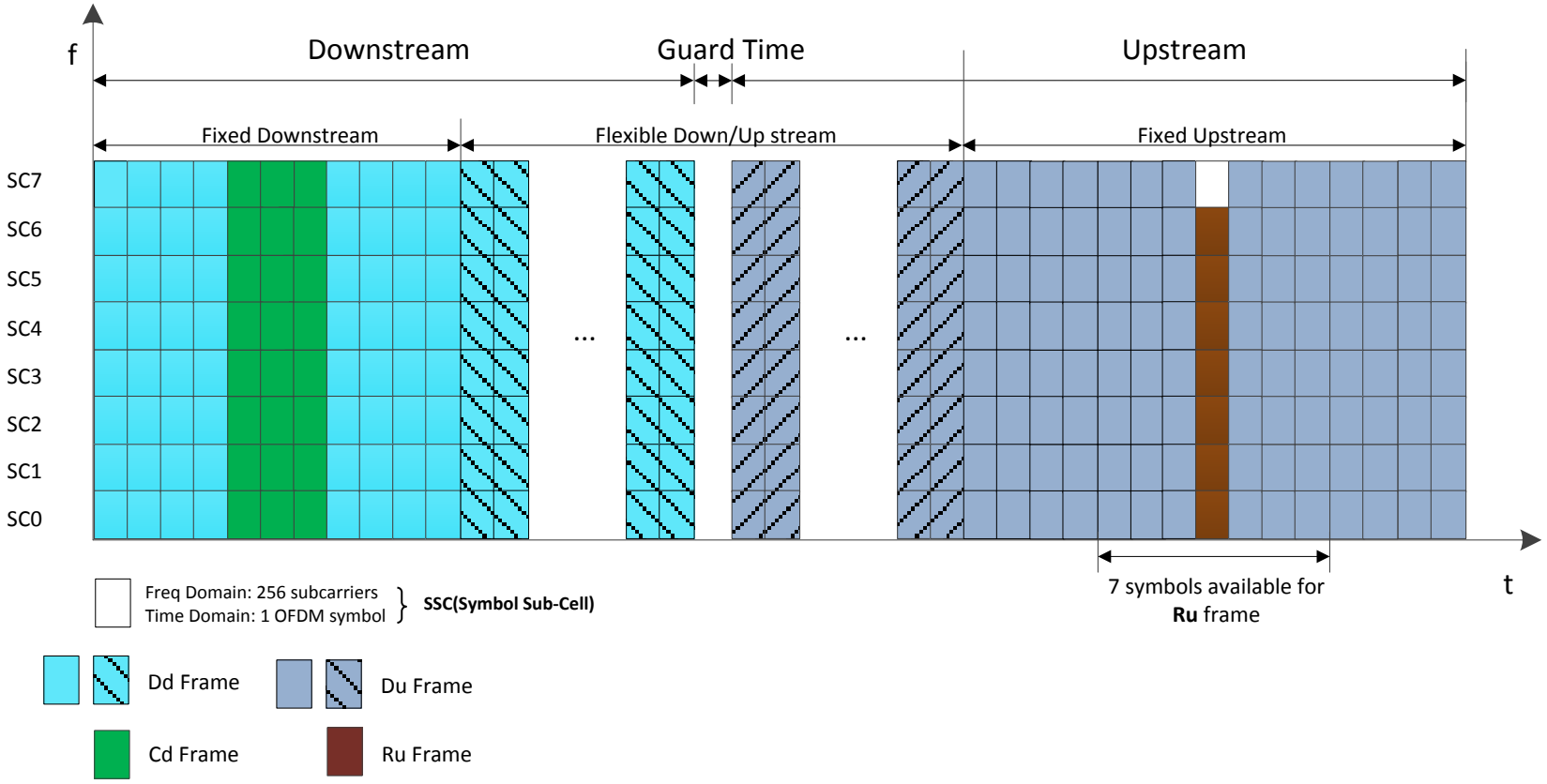
Data Frames:

Downlink Data Frame (**Dd**)
Uplink Data Frame (**Du**)

Control Frame:

Downlink Control Frame(**Cd**)
Uplink Report Frame(**Ru**)

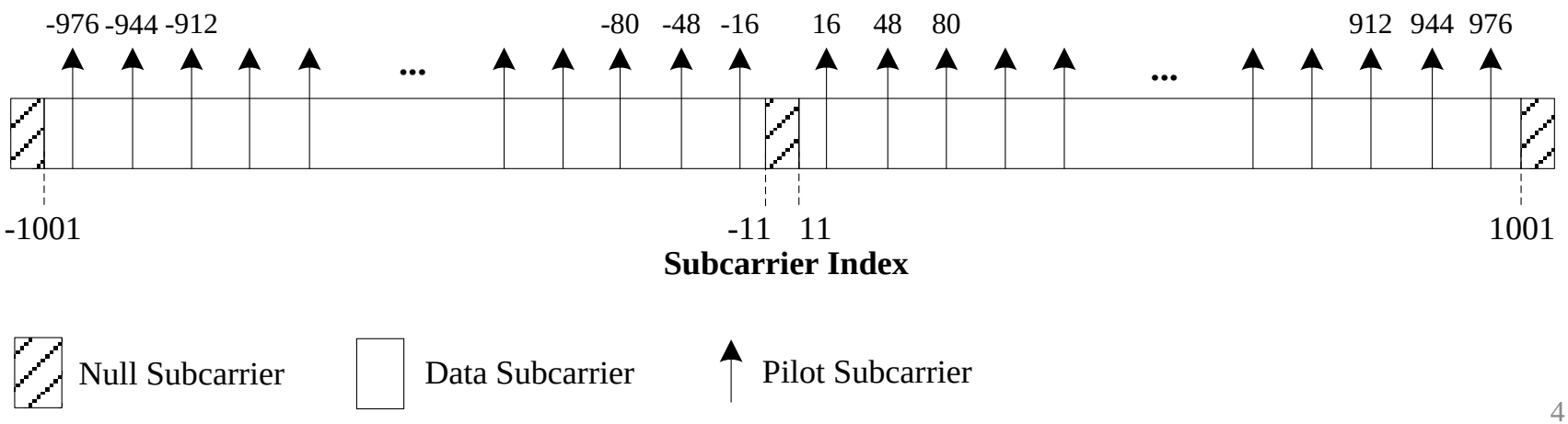
MAP Cycle



CP Length	OFDM Length(T_{ofdm})	MAP Cycle Length
0.5us	16.5us	139*T_{ofdm}
1.0us	17.0us	146*T_{ofdm}
2.0us	18.us	138*T_{ofdm}

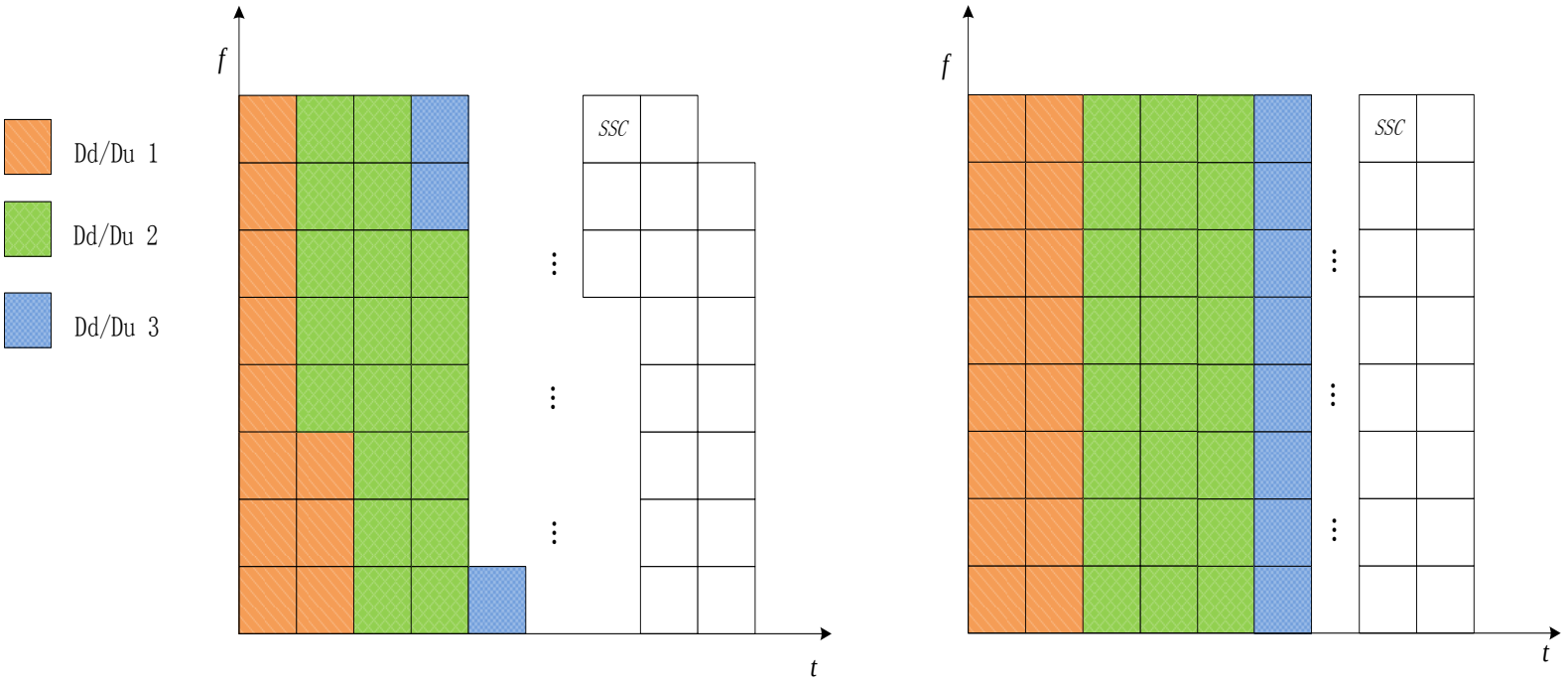
Dd/Du Frame

- No preamble. Only contain OFDM symbols
- 2048 subcarriers
  - null subcarriers: 66
  - data subcarriers:1920
  - pilot subcarriers:62
- Adaptive modulation and coding scheme



Dd/Du Frame

- **OFDMA Mode**
  - **Each Dd/Du frame occupies any integer SSCs**
- **TDMA Mode**
  - **Each Dd/Du frame occupies any integer OFDM symbols**



OFDMA Mode

TDMA Mode

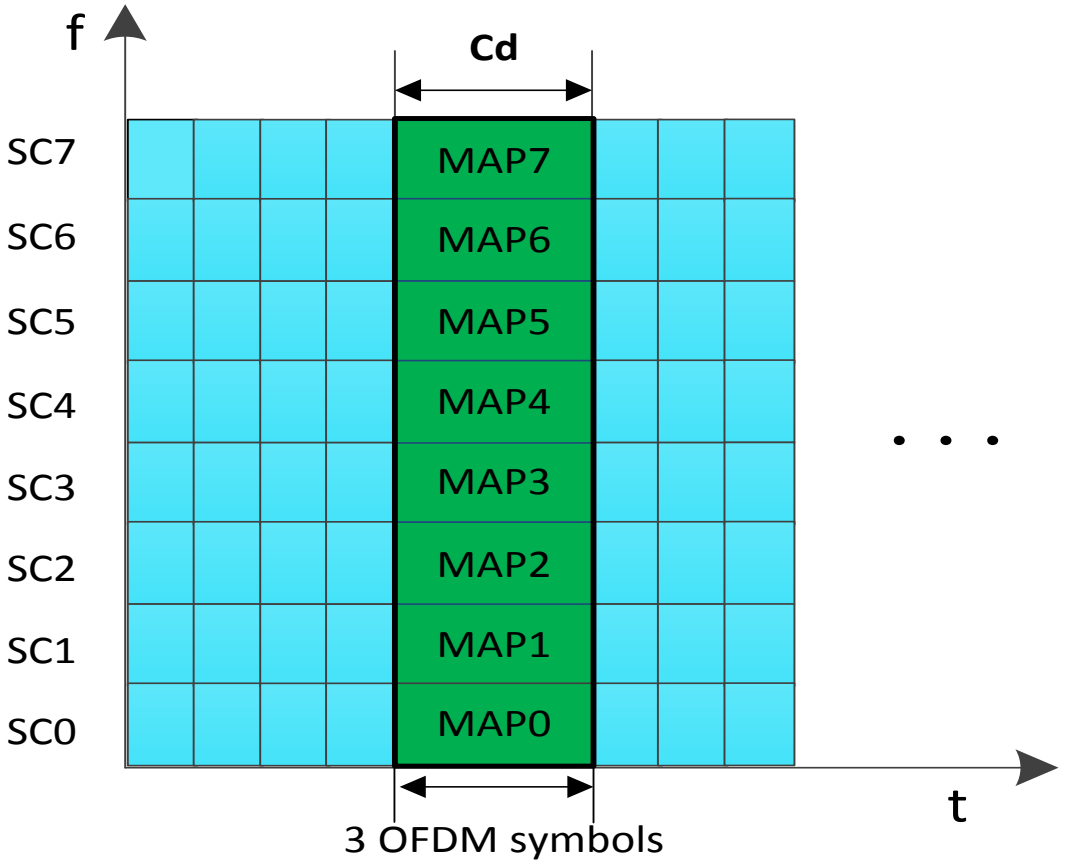
Cd Frame

面向NGB的同轴电缆接入技术
HINOC
High performance Network Over Coax

- No preamble. Only contain OFDM symbols
- 2048 subcarriers
  - null subcarriers: 66
  - data subcarriers:1992
  - no pilot subcarrier
- Fixed OFDM numbers
- Fixed modulation: DQPSK
- Fixed FEC: BCH(392,248)

Cd Frame

- **Each sub-channel (SC, 16MHz) in Cd frame bears a MAP frame of MAC layer which is used to indicate the assignments of the next MAP cycle.**

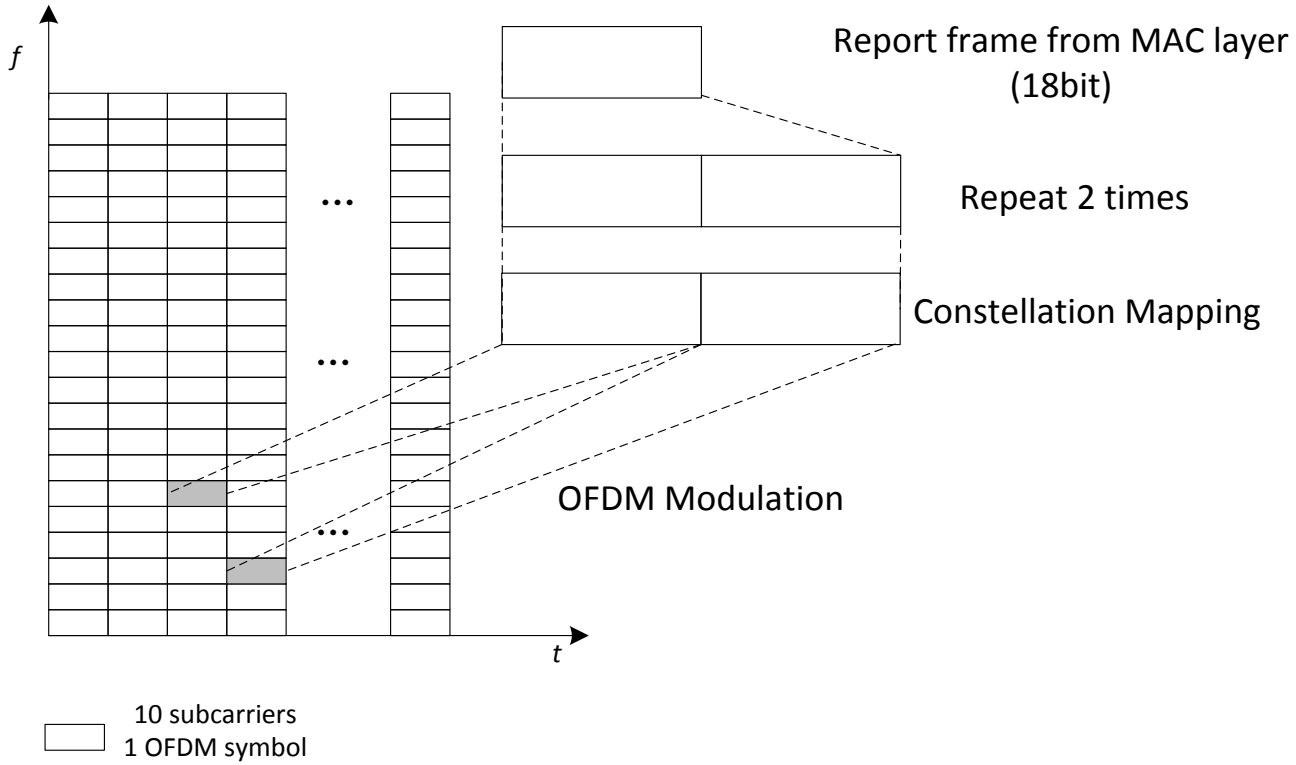


Ru Frame

- No preamble. Only contain OFDM symbols
- 2048 subcarriers
  - null subcarriers: 66
  - data subcarriers:1992
  - no pilot subcarrier
- OFDM numbers : 1~7
- Fixed modulation: DQPSK
- No FEC

Ru Frame

- **OFDMA**
  - **High efficiency in the case of short packets.**



Thank you!