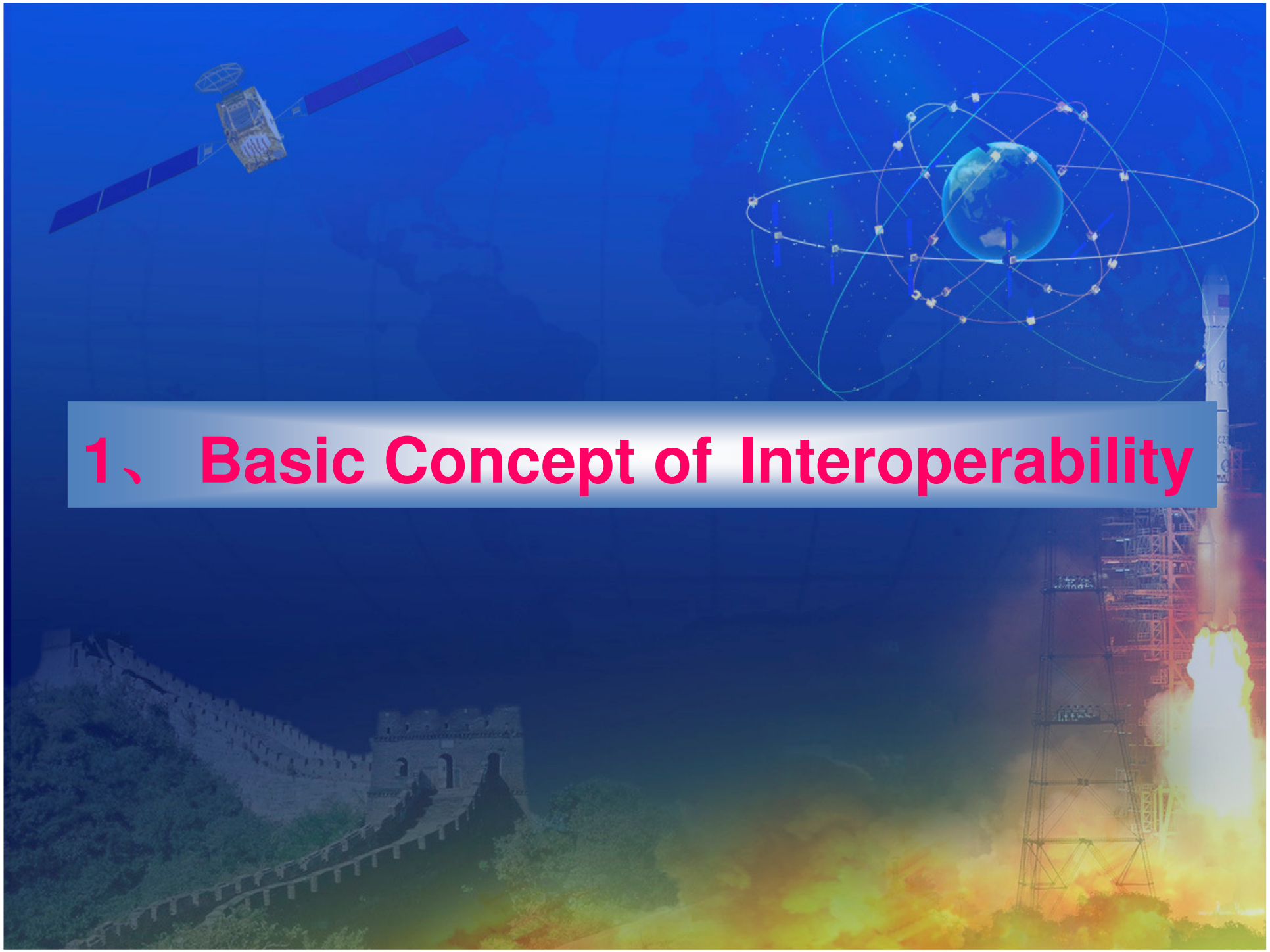
International Committee on GNSS
Working Group A Meeting on GNSS Interoperability

View on Interoperability

China Satellite Navigation Project Center

Nov. 30th, 2009, Gold Coast， Australia

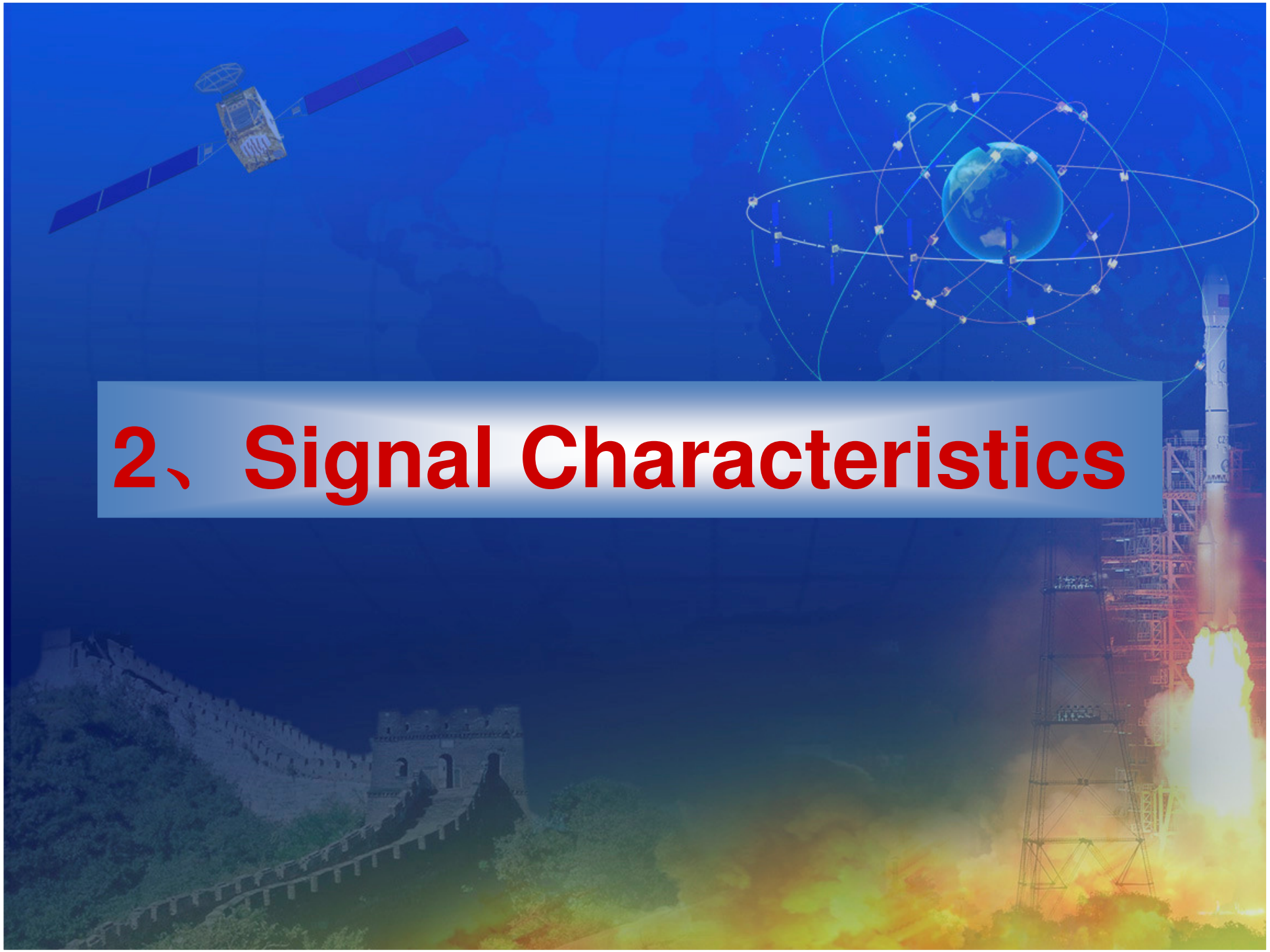
Contents



1、 Basic Concept of Interoperability

Interoperability

Interoperability refers to the ability of open services of multiple satellite navigation system to be used together to provide better capabilities at the user level than would be achieved by relying solely on one service, without significantly increasing the complexity of receivers.



2、Signal Characteristics

Frequencies

B1: 1559.052~1591.788MHz

B2: 1166.22~1217.37MHz

B3: 1250.618~1286.423MHz

Component	Carrier Frequency (MHz)	Chip Rate (cps)	Data/Symbol Rate (bps/sps)	Modulation Type	Service Type
$B1\text{-}C_D$	1575.42	1.023	50/100	MBOC(6,1,1/11)	Open
$B1\text{-}C_P$			No		
B1		2.046	50/100	BOC（14，2）	Authorized
			No		
$B2a_D$	1191.795	10.23	25/50	AltBOC(15,10)	Open
$B2a_P$			No		
$B2b_D$			50/100		
$B2b_P$			No		
B3	1268.52	10.23	500bps	QPSK(10)	Authorized
$B3\text{-}A_D$		2.5575	50/100	BOC(15,2.5)	Authorized
$B3\text{-}A_P$			No		

3、Time and Coordinate Systems

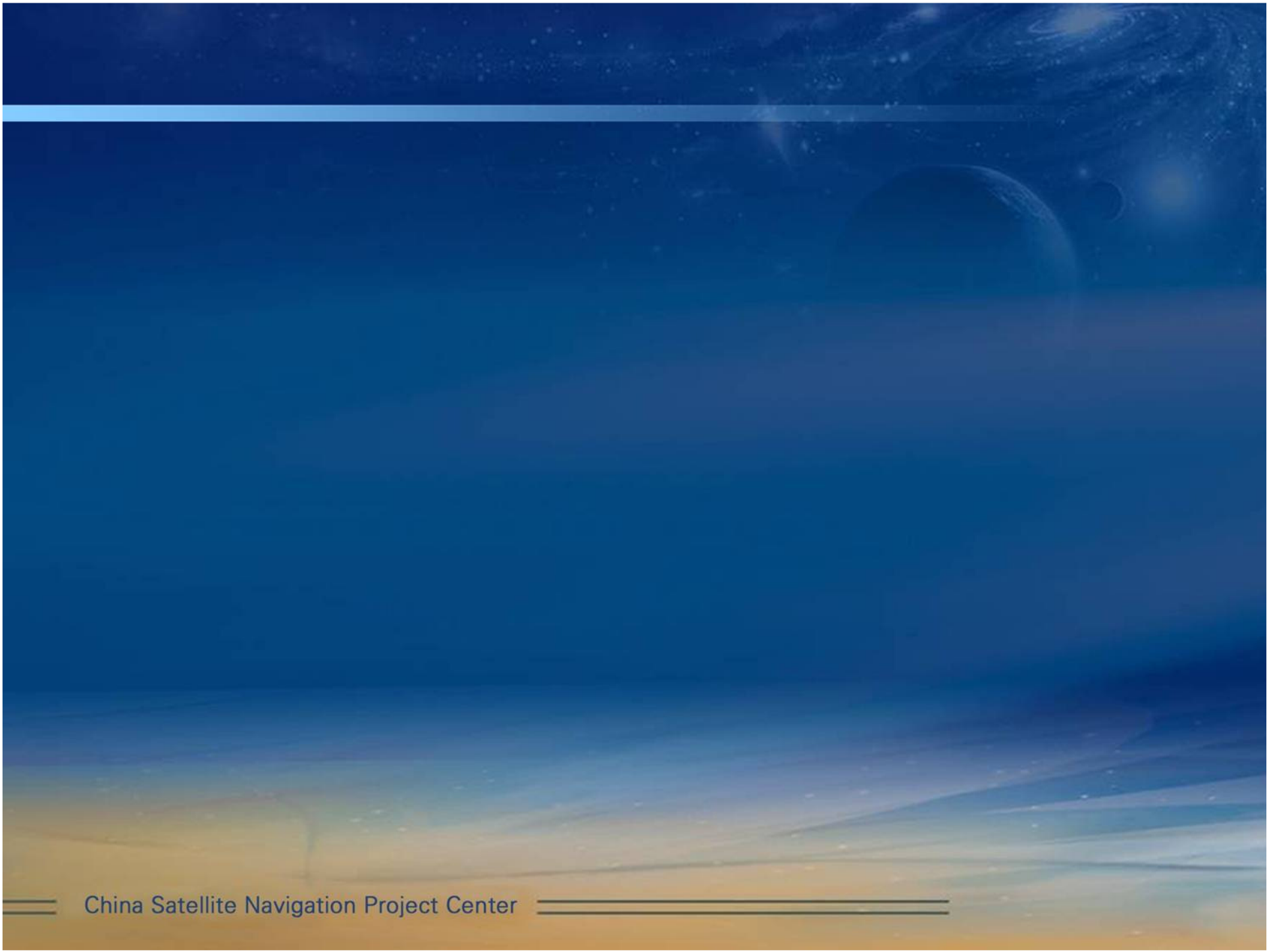
Time System

- COMPASS/BeiDou time is named as BDT, traced to UTC(NTSC), and synchronized with UTC within 100ns. The epoch time of BDT is UTC 00d 2006.
- Interoperability of BDT with GPS/Galileo time was considered in the design of COMPASS/BeiDou time system. The offset between BDT and GPST/ GST will be measured and broadcasted.

Coordinate System

- COMPASS/BeiDou uses China Geodetic System 2000 (CGS2000)
- Coinciding with ITRF at a few cm level, and for most applications the difference between CGS2000 and ITRF can be ignored.

4、 Essential of Interoperability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