Contents

1 Introduction .......................................................... 1

2 The Compatibility of Geodetic Control .............................. 3

3 The Compatibility of 2D (Planimetric) Points ...................... 5
   3.1 Characteristics of Planimetric Points in Terms of Compatibility ........................................... 5
   3.2 The Emergence of Incompatibility of Points and Its Impact on the Creation of Geodetic Controls ............... 6
   3.3 The Need for Verification of Compatibility of Survey Control Points ............................................. 9
   3.4 Indicators of Planimetric Compatibility of Points ................................................................. 10
       3.4.1 In General ..................................................... 10
       3.4.2 Types of Indicators ......................................... 12
       3.4.3 The Internal Structure of Indicators ....................... 13
       3.4.4 Characteristics of Indicators ................................ 16
       3.4.5 Relations Between DL and DC Indicators ................. 18
   3.5 Pre-information to Verify Planimetric Compatibility ......... 22

4 The Compatibility of 1D (Height) Points ............................ 25
   4.1 Characteristics of Height Points in Terms of Compatibility ...... 25
   4.2 The Emergence of Incompatibility and Its Effect on Height Determination ........................................ 26
   4.3 Indicators of Height Incompatibility and Their Characteristics ................................................. 26
   4.4 Pre-information to Verify the Height Compatibility .............. 27

5 The Compatibility of 3D Spatial Points ............................... 29
   5.1 Characteristics of Spatial Points in Terms of Compatibility .......... 29
   5.2 The Emergence of Incompatibility of Points and Its Effect on the Establishment of Spatial Networks ............. 31
5.3 Indicators of Spatial Compatibility of Points and Their Characteristics ........................................ 33
  5.3.1 In General ................................................................. 33
  5.3.2 Types of Indicators .................................................. 34

6 The Verification of Compatibility of Planimetric Points .................. 37
  6.1 In General ................................................................. 37
  6.2 The Compatibility Verification with \( dC \) Indicators .................... 37
    6.2.1 Strategies of Compatibility Verification .............................. 38
    6.2.2 Methods of Compatibility Verification .............................. 42
  6.3 The Compatibility Verification with \( dL \) Indicators .................... 79
    6.3.1 In General ............................................................. 79
    6.3.2 The Verification of Compatibility of Points of Changes in Lengths ........................................ 81
    6.3.3 The Verification of Compatibility of Points in Network Structure ........................................ 84

7 The Verification of Compatibility of Height Points ....................... 89
  7.1 In General ................................................................. 89
  7.2 Strategies of Verification of Altimetric Compatibility ............... 90
    7.2.1 The Verification with Full Pre-information .......................... 90
    7.2.2 The Verification with Incomplete Pre-information ................. 90
  7.3 Methods of Verification of Altimetric Compatibility ................. 91
    7.3.1 Method of Height Congruency (Full Pre-information) ............. 91
    7.3.2 Lenzmann–Heck’s Method
       (Incomplete Pre-information) ........................................ 100

8 The Verification of Compatibility of Spatial Points ..................... 107
  8.1 In General ................................................................. 107
  8.2 The Verification of Spatial Compatibility by DC Indicators ........... 107
  8.3 The Verification of Spatial Compatibility with Pre-information ..... 108
    8.3.1 Fisher’s Compatibility Test of Two Files with Different Accuracy ........................................ 109
    8.3.2 Global Test of Compatibility of Spatial Network .................. 110
    8.3.3 Local Test of Compatibility of Spatial Network ................. 112
    8.3.4 Test by Confidence Ellipsoid ...................................... 113
    8.3.5 Graphical Representation of Results ................................ 114

References ................................................................. 115
Survey Control Points
Compatibility and Verification
Weiss, G.; Weiss, E.; Weiss, R.; Labant, S.; Bartoš, K.
2016, IX, 118 p. 23 illus., Softcover
ISBN: 978-3-319-28456-9