

CONTENT

1. Introduction	11
2. Geophysical methods in archaeology	12
2.1. Magnetometry	14
2.1.1. Sources of Magnetic Survey Anomalies	14
2.1.2. Magnetic survey in archaeology.....	16
2.1.3. Instrumentation	16
2.1.4. Magnetic survey workflow	19
2.2. Geoelectric Resistivity Methods.....	22
2.3. Georadar survey	24
2.4. Electromagnetic Induction (EMI)	28
2.5. Gravimetry	28
2.6. Seismics	30
3. Interpretation of geophysical data	32
3.1. Development of visualisation techniques.....	32
3.2. Definition of interpretation	32
3.3. Basic elements of data interpretation	34
3.4. Process of Interpretation.....	35
4. Archaeological features in geophysical data	40
4.1. Settlement features	40
4.1.1. Above-ground post-built structures	40
4.1.2. Sunken huts	42
4.1.3. Other settlement features.....	46
4.2. Graves and features connected to burial activities.....	50
4.2.1. Flat-grave cemeteries.....	50
4.2.2. Barrow cemeteries	55
4.3. Fortifications.....	60
5. Application of magnetic survey on extensive development-led projects – case studies.....	68
5.1. Bernolákovo, Obora site (Senec district, Slovakia)	68
5.2. Blatné, Hriadky site (Senec district, Slovakia).....	74
5.3. Bratislava - Devínska Nová Ves, Múrnice site (Bratislava IV district, Slovakia)	85
5.4. D1 motorway bypass, Přerov – Předmostí (Přerov district, Czech Republic).....	91
5.5. D11-06 motorway (sectors 06–08) (Hradec Králové district, Czech Republic).....	100
5.6. Jelka, Zákruty site (Galanta district, Slovakia)	113
5.7. Road I/16 Slaný - Velvary (Kladno district, Czech Republic)	117
5.8. Tôň, Chmel'nisko site (Komárno district, Slovakia)	129
6. Evaluation of magnetic survey.....	136
6.1. Methods used for evaluating magnetic survey effectiveness	137
6.1.1. Manual visual comparison.....	138
6.1.2. Statistical spatial correlation	138

6.2. Results of the analysis	139
6.2.1. Bernolákovo, Obora site (Hall A) (Senec district, Slovakia).....	139
6.2.2. Blatné, Hriadky site (Senec district, Slovakia).....	142
6.2.3. D1 motorway bypass, Přerov – Předmostí (Přerov district, Czech Republic).....	145
6.2.4. D11-06 motorway (sectors 06–08) (Hradec Králové district, Czech Republic).....	146
6.2.5. Road I/16, Slaný - Velvary (Kladno district, Czech Republic)	150
7. Special topics	162
7.1. Optimising excavations through geophysics and geoarchaeological sampling: Research design and case studies	162
7.2. Evolution of Landscape in Moravia: Insights from Pollen Analysis	181
7.3. Magnetometry and the influence of recent disturbance sources on prospection results.....	189
8. Map of magnetic survey's potential in archaeology	199
9. Conclusion.....	207
10. References.....	208