



REVEALING THE ROMAN FRONTIER IN A MODERNLY ALTERED LANDSCAPE. THE CASE STUDY OF LIMES TRANSALUTANUS

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Credit: Eugen S. Teodor

PN-II-PT-PCCA-2013-4-0759 *Interdisciplinary technology for archaeological field survey. Case Study – Limes Transalutanus south of Argeș River*



THE ROMAN FRONTIER IN DACIA

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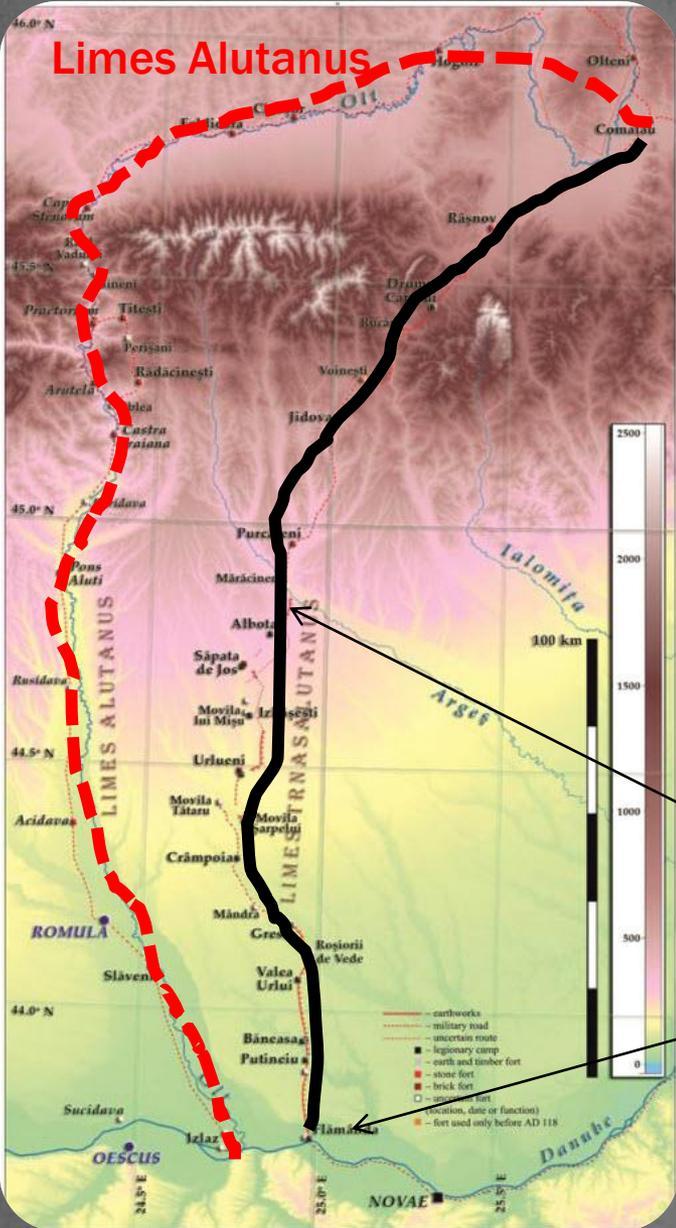
ARCHAEOLOGICAL CHALLENGES

RESEARCH METHODS AND PRELIMINARY RESULTS

- HISTORICAL CARTOGRAPHY AND TOPONYMY
- AERIAL PHOTOGRAPHY AND REMOTE SENSING
- GEOPHYSICS
- ARCHAEOLOGICAL FIELD SURVEY

FUTURE PROSPECTS

THE ROMAN FRONTIER IN DACIA



LIMES TRANSALUTANUS

SOUTHERN SEGMENT: 55 KM

CENTRAL SEGMENT: 40 KM

NORTHERN SEGMENT: 57MM

Limes Transalutanus



THE ROMAN FRONTIER IN DACIA

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THE ROMAN FRONTIER IN DACIA ARCHAEOLOGICAL CHALLENGES

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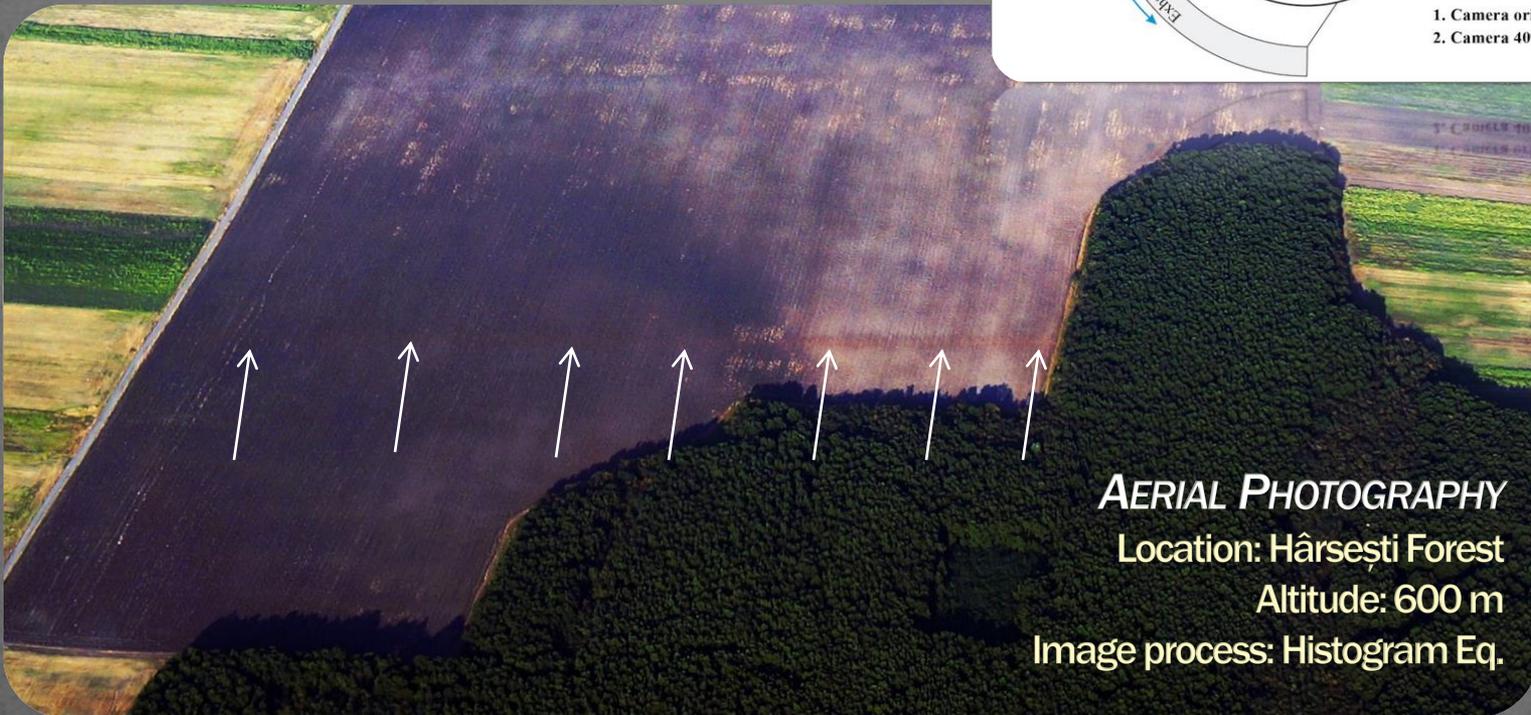
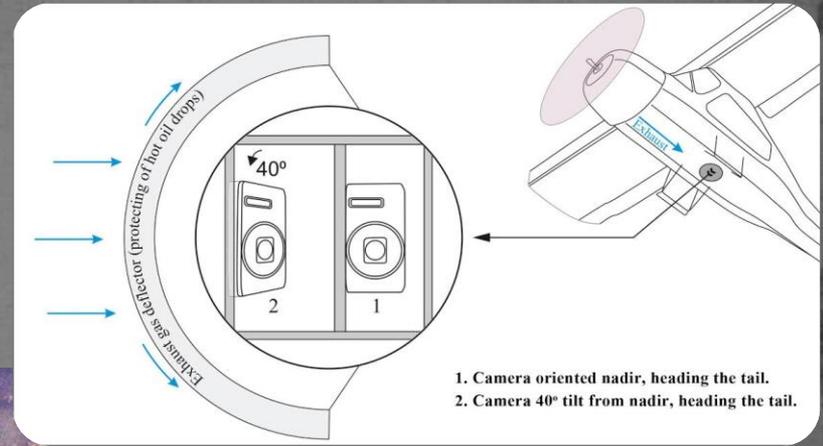
FUTURE PROSPECTS

RESEARCH METHODS AND PRELIMINARY RESULTS

AERIAL PHOTOGRAPHY AND REMOTE SENSING



Detecting Features and Structures



AERIAL PHOTOGRAPHY
Location: Hârsești Forest
Altitude: 600 m
Image process: Histogram Eq.

RESEARCH METHODS AND PRELIMINARY RESULTS

UNMANNED AERIAL VEHICLE (UAV)

MULTICOPTERS = MULT-ROTOR FLYING PLATFORMS ABLE TO CARRY CAMERAS AND OTHER SENSORS



MULTICOPTERS

- QUADCOPTER
- HEXACOPTER
- OCTOCOPTERS

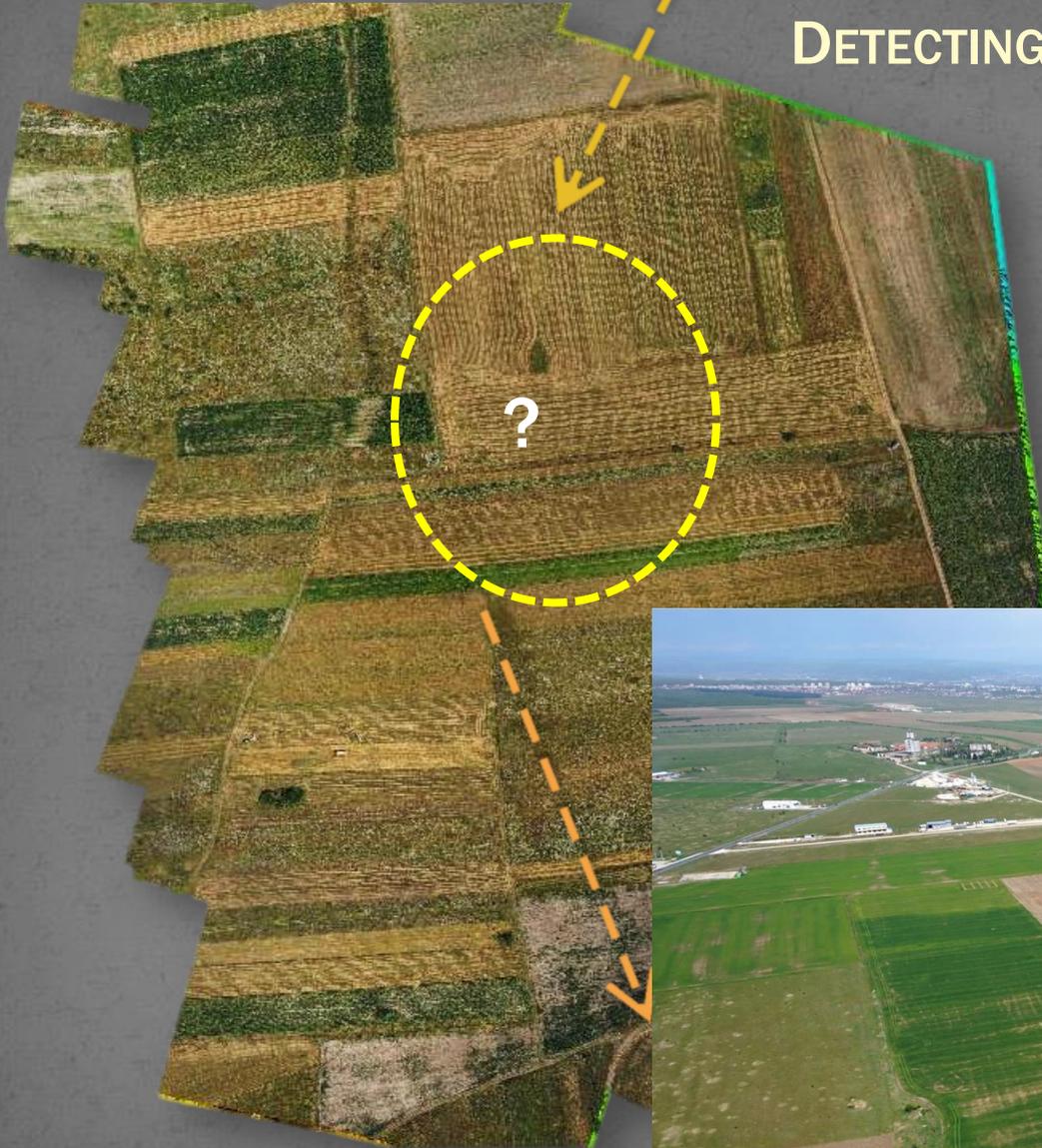
RESEARCH METHODS AND PRELIMINARY RESULTS



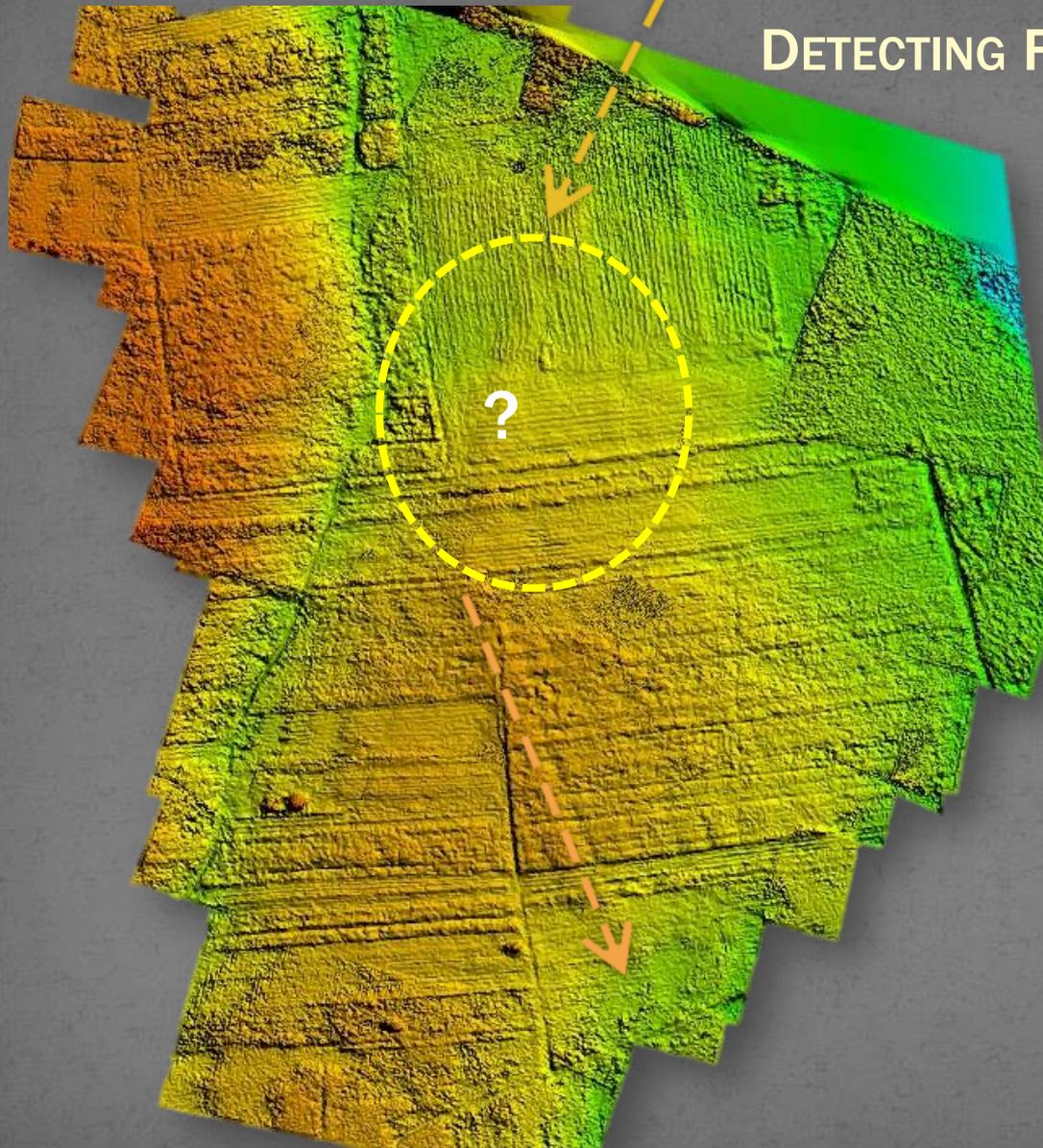
FORTIFICATION SYSTEM AND ROAD ON ROMAN LIMES
OBLIQUE IMAGE
ALTITUDE: 250M
HEAVY-LIFT HEXACOPTER

Mapping the route

RESEARCH METHODS AND PRELIMINARY RESULTS DETECTING FEATURES AND STRUCTURES



RESEARCH METHODS AND PRELIMINARY RESULTS DETECTING FEATURES AND STRUCTURES



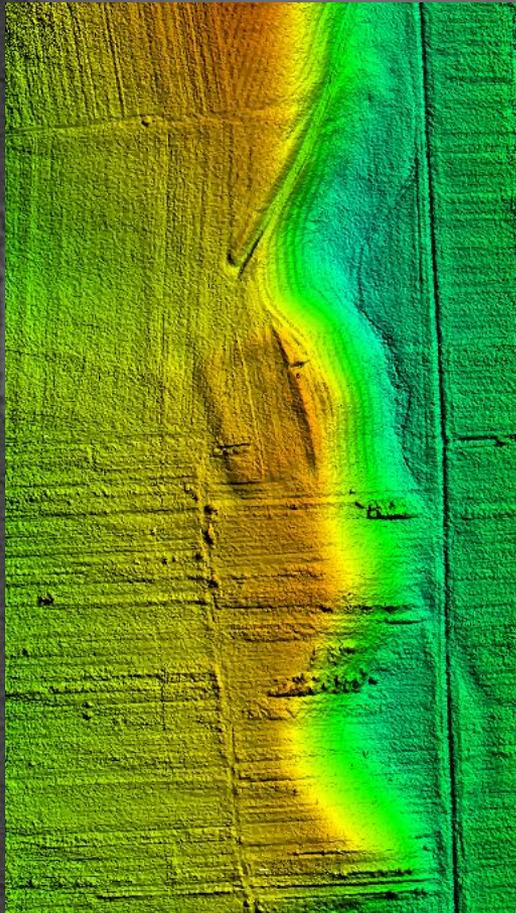
ROMAN LIMES – *TRANSALUTANUS*

ORTHORECTIFIED IMAGERY

DEM

Project PN-IPCCA-2013-4
Ctr. 317/2014

RESEARCH METHODS AND PRELIMINARY RESULTS



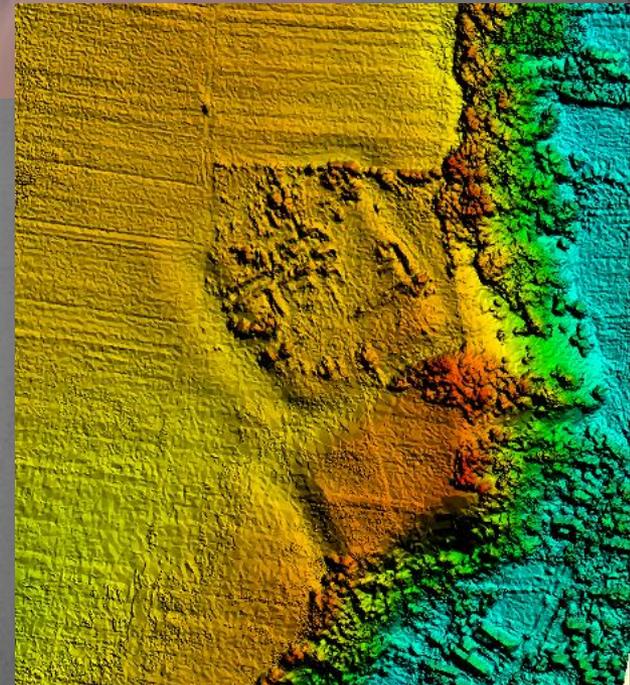
Crâmpoia fort
& road

Forts



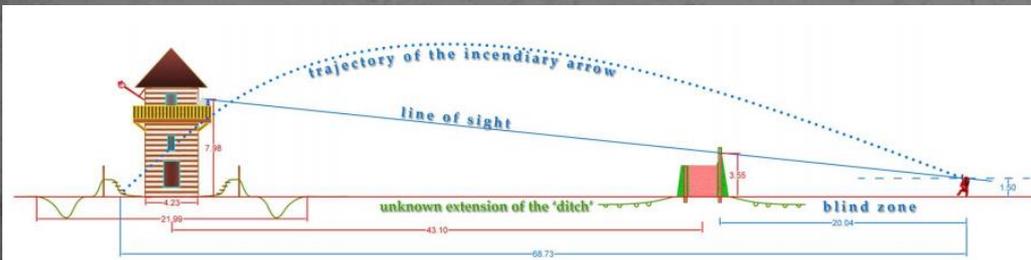
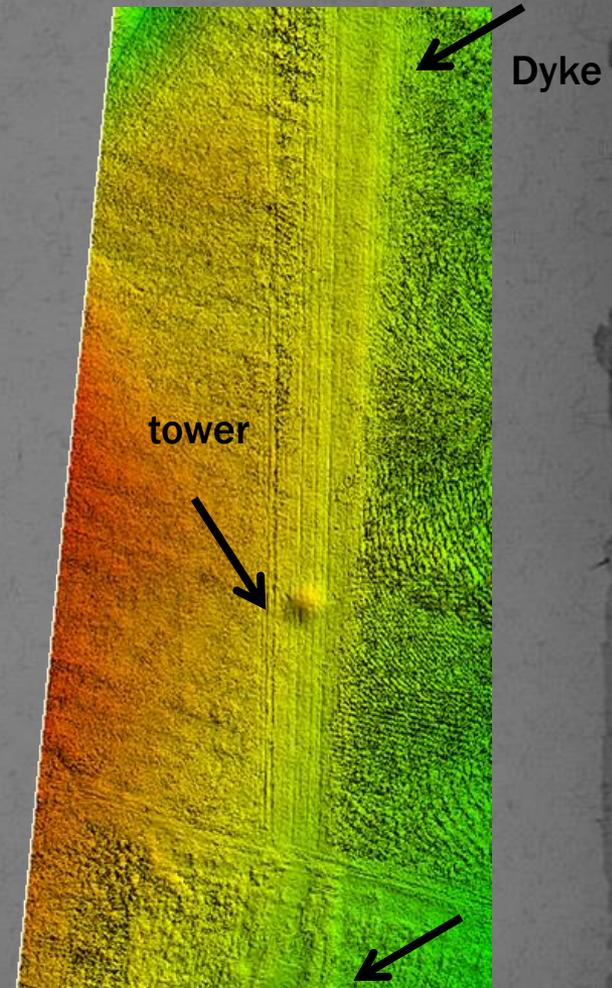
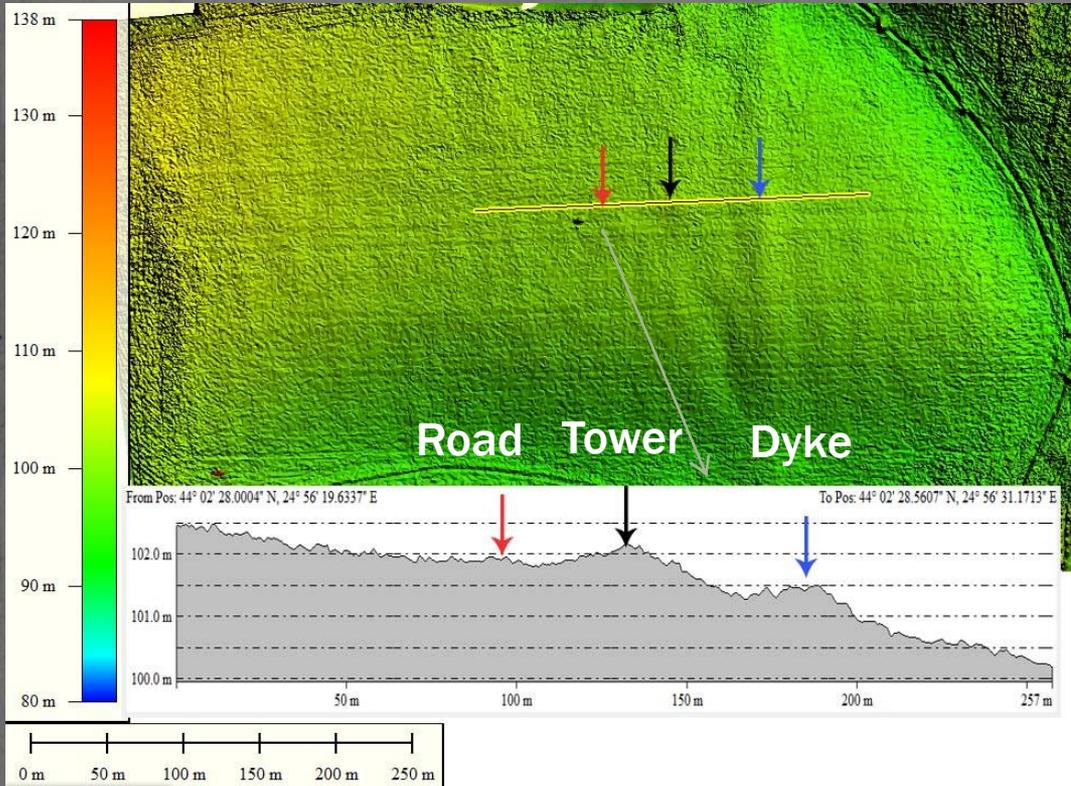
Urlui - fortlet

Urlueni forts



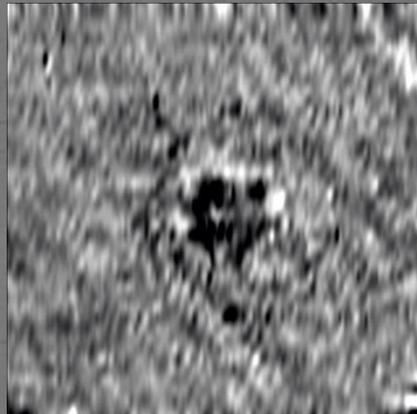
Watch-Towers Secondary Road Network

RESEARCH METHODS AND PRELIMINARY RESULTS DETECTING FEATURES AND STRUCTURES



RESEARCH METHODS AND PRELIMINARY RESULTS

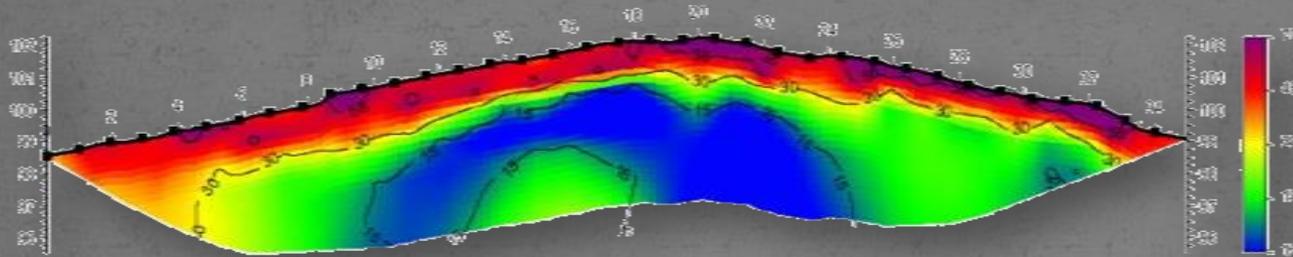
DETECTING FEATURES AND STRUCTURES



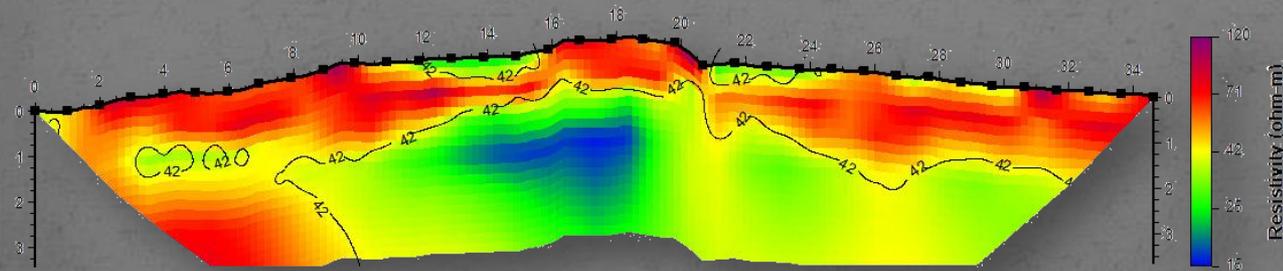
GEOPHISICS
Magnetic Methods

Watch-Towers

RESEARCH METHODS AND PRELIMINARY RESULTS DETECTING FEATURES AND STRUCTURES



GEOPHISICS
ERT - Electrical Resistivity
Tomography



ARCHAEOLOGICAL CHALLENGES

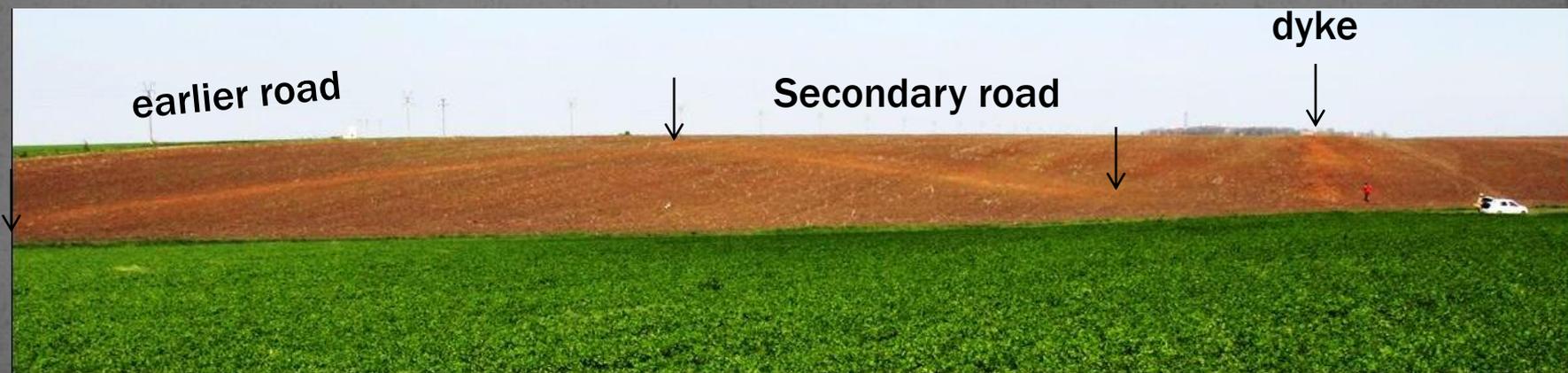
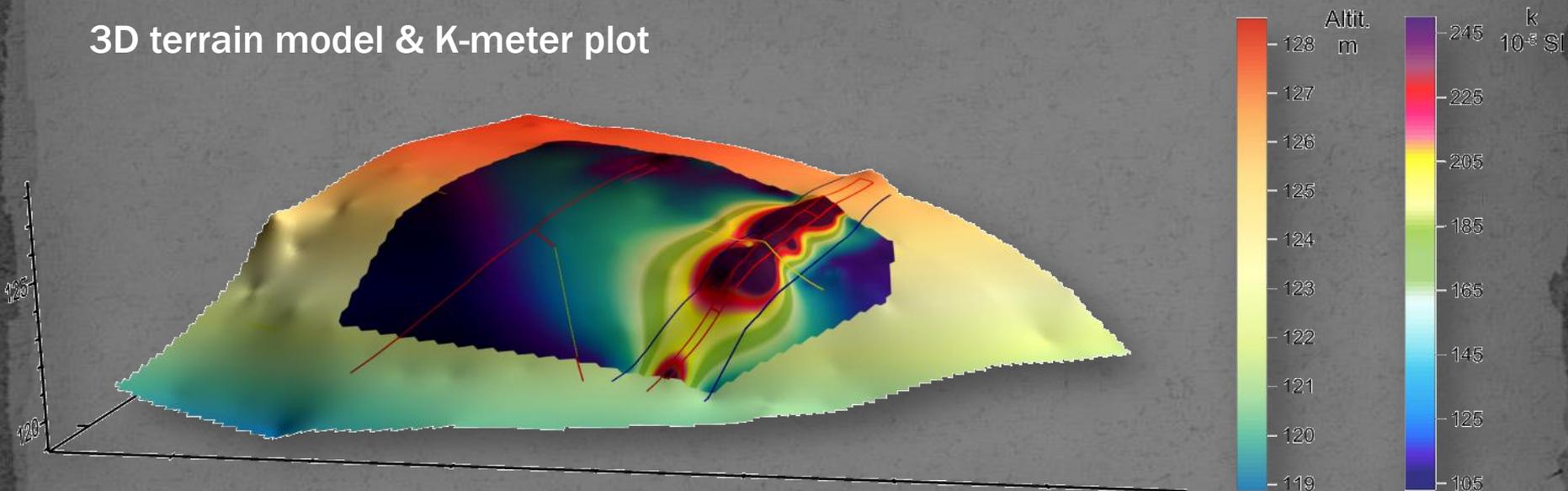


Vitrified dyke

RESEARCH METHODS AND PRELIMINARY RESULTS

DETECTING FEATURES AND STRUCTURES

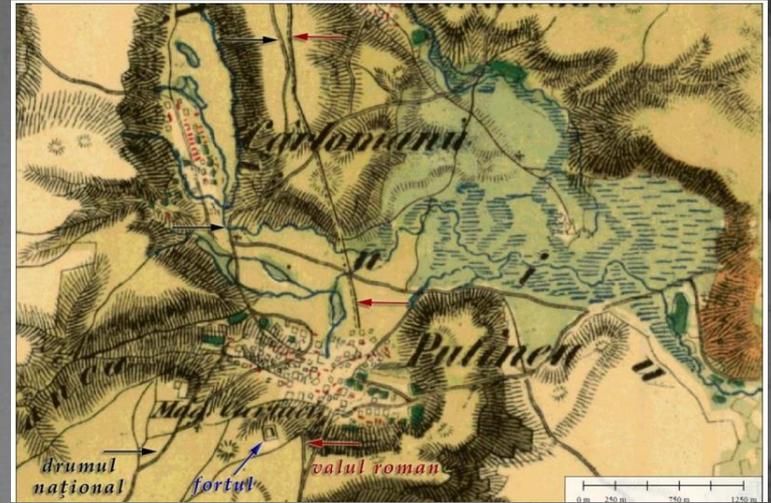
3D terrain model & K-meter plot





Drillings

Toponymy
Pottery Survey



Historical cartography

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OTHER METHODS



THANK YOU FOR YOUR ATTENTION
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<http://www.limes-transalutanus.ro/>