



INTEGRATION OF GEOMATIC TECHNIQUES FOR THE SURVEY AND ANALYSIS OF STRUCTURES IN HERCULANEUM AND POMPEII

G. BITELLI, V.A. GIRELLI, L. GUSELLA, A. ZANUTTA

Università degli Studi di Bologna, DISTART
Viale del Risorgimento 2, 40136 Bologna (I)
tel. +39 051 2093237
gabriele.bitelli@unibo.it
antonio.zanutta@mail.ing.unibo.it

Since March 2006, the surveying team of DISTART Dept., University of Bologna, has started a series of analysis on some elements of remarkable archaeological and artistic value in the excavations of Herculaneum (Naples, Italy). These researches continue the studies developed in Pompeii (Naples, Italy) with the surveys carried out at the Insula del Centenario. The subject of the present study are the Casa del Tramezzo di Legno and Casa dello Scheletro in Insula III and the Casa di Nettuno ed Anfritrite in Insula V. Different solutions were tested using digital photogrammetric systems, in terms of data acquisition (e.g. semi-metric vs digital cameras, pseudo-bicamera systems), data processing (e.g. automated surface model reconstruction, stereoscopic plotting) and representation (e.g. orthophotos, adoption of cartographic projections). The presentation wants to describe survey activities performed with the aim to obtain a detailed geometric description of structures, not only for representation purposes but also in support of structural engineering studies carried out by the same Department. Photogrammetric survey and digital restitution were carried out at different scales, till to the development of a surface model suitable for a structural analysis (e.g. by finite element methods). GPS static surveys permitted to establish a geodetic framework useful for the topographical and photogrammetric surveys of the structures and also to insert them in the national system.

