

The Use of TLS Technology in the Inventory of Damage to Building Objects Resulting from the Impact of Underground Mining Exploitation

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SUMMARY

Conducting underground mining is not indifferent to the environment, landscape and building structures located on the surface of these areas. In the case of urbanized areas, such as in the region of the Upper Silesian Coal Basin, the problem of mining damage is of particular importance. Inventory of damage to buildings and, in special cases, their monitoring is a complex task. Simple photographic documentation does not provide metric information, while classical surveying measurements may be insufficient or ineffective, e.g. in the case of numerous, progressive cracks. The solution to the problem may be the technology of 3D Terrestrial Laser Scanning (TLS) - both classic ground and manual. Measurements made in this way provide multi-criteria and accurate data on deformation and damage to buildings. The aim of the work is to present the possibilities of using TLS technology in the scope in question on the examples of actual measurements of damage to buildings caused by mining activities.

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