3D GEOINFO

3D COMPLETE TRAFFIC NOISE ANALYSIS BASED ON CITYGML

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Abstract Nowadays, transportation plays a more and more significant role in our daily life but produces noise. Noise not only causes annoyance and health problems, but also shows effects on economics. In 2002, the European Union published the Common Noise Assessment methods (Kephalopoulos et al 2012). The objective of this paper is to present a method for simulating the noise propagation in 3D and calculating traffic noise on building façade level with different height by using 3D city model and integrating all noise coming from individual traffic such as cars or motorcycles as well as planes and railroad based vehicles. Since this noise sources are located in our 3D urban environment - the analysis and the mapping has to cover the 3D aspect as well. A neighborhood of Berlin was chosen as research area. Currently, we propose a semi-automatic solution for 3D noise mapping: generating 3D observer points from CityGML building data; modeling 3D propagation path and calculating different kinds of traffic noise level. The total noise levels are then calculated by estimating the total annoyance based on effect equivalent sound pressure levels for different types of traffic source. The results are presented as a 3D map. In the future this approach can be further developed to an on-the-fly tool, that makes use publicly available data and processes to determine the noise for one building to a certain point in time. Besides that we found out that more investigation and evaluation on noise calculation methods are needed. Thus the development of near real time calculation methods together with noise measurements is required.

Keywords:noise traffic analysis, CityGML, noise mapping, noise determination

3D MARINE ADMINISTRATION SYSTEM BASED ON LADM

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Abstract Maritime environment, acknowledging the precedence of the terrestrial boarders, needs to be organized and precisely determined whereas the interests involved are complex and wide. The registration of marine boundaries is a necessary condition for the protection of an alive organism, which flows, changes, reverses itself, but it is not limitless.The research has confirmed that the common pattern of people land relationships exists in the marine environment. Also the marine cadastre concept suggests that the complexity of interests in marine space is similarly encountered in land. The extension of cadaster functions from land to marine space is considered reasonable. The main objective of this paper is to organize the RRRs included in marine space and to develop a marine administration model, based on LADM, followed by the database implementation.

Keywords: Marine Administration System, LADM, 3D modelling, 3D cadastre