In the recent years, virtual 3D reconstructions of archeological sites have gained large attention from various fields of science. Procedural modeling approaches emerged as appropriate to model and visualize reconstructed ancient structures. The process of reconstructing historical building structures involves ambiguities and uncertainties. On an archeological site, excavated and surveyed findings such as ruins, located in their original positions, provide reliable foundations for a 3D reconstruction. On the contrary, findings, such as debris of walls, roofs, columns etc. are not less important, but implicate different levels of certainties for a 3D model, depending on the archeological knowledge and interpretation. On the one hand, this work provide a virtual 3D reconstructing of an ancient roman temple sited in the Sanctuary of Diana in different levels of detail using a procedural modeling approach. On the other hand, we present a fuzzy logic approach in order to quantify and visualize the uncertainty of the temple reconstruction.
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