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Applications of VGSTUDIO MAX - Visualization and analysis of archeological volume data

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Volume Graphics software is an established and powerful tool for the precise analysis and visualization of volume data generated for scientific research. Our application works equally well on data acquired with neutrons, x-rays or other sources. A traditional application field for CT and the subsequent analysis and visualization with VGSTUDIO MAX is the research of ancient mummies. Our latest project involving the mummy from the lady Ta-Cheru successfully combined voxel data from a medical CT with mesh data with colored surface information generated from a 3D scanner. This enabled the creation of stunning visualizations of the object based on the surface colors and (inner) material information, thus producing an authentic digital replica [1] of the mummy. The analysis of CT scans of mummies can also reveal additional details about the life and death of the scanned and mummified individual, as in the case of the mummified kestrel from ancient Egypt [2]. Our various visualization and analysis options have been used to investigate ancient manuscripts [3,4], restore prehistoric figurines, conduct forensic and medical research [5], and characterize different materials. Here, we present the broad range of analysis options across different fields, with a focus on archeological applications.

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