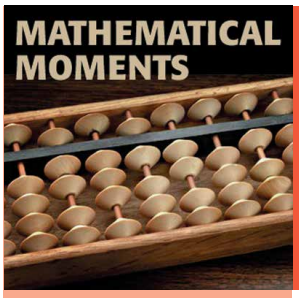

Scanning Ancient Sites

Ancient sites are fascinating, but their exposure to the elements and to human intervention is often devastating. Archaeologists and engineers are using lasers to scan many ancient structures to create *three-dimensional images* that won't suffer from pollution or vandalism. Areas of mathematics such as vector analysis and linear algebra help convert the billions of measurements from the laser beams into coordinates and then align readings from repeated scans to achieve images that are accurate to within a millimeter. This process not only preserves structures digitally but also is solving many mysteries about their construction.

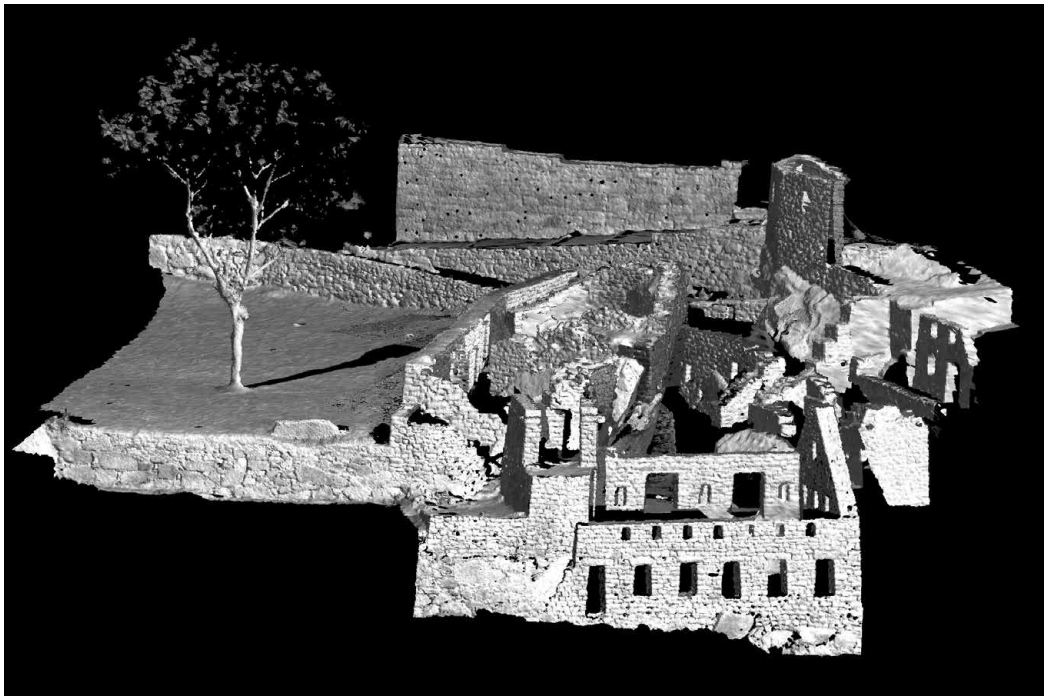

Image of data from the Temple of the Condor, Machu Picchu by Instituto Nacional de Cultura, Center for Advanced Spatial Technologies (University of Arkansas) and Cotsen Institute for Archaeology (UCLA).

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