

Micro-CT Imaging Of Hard Tissues

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Abstract : From the earliest light microscope to the most innovative X-ray imaging techniques, all of them have refined and improved our knowledge about the organization and composition of living tissues. The old techniques are time consuming and ultimately destructive to the tissues under the examination. In recent few decades, thanks to the boost of technology, non-destructive visualization techniques, such as X-ray computed tomography (CT), magnetic resonance imaging (MRI), selective plane illumination microscopy (SPIM), and optical projection tomography (OPT), have come to the forefront. Among these techniques, CT is excellent for mineralized tissues such as bone or dentine. In addition, CT it is faster than other aforementioned techniques and the sample remains intact. In this article, applications, advantages, and limitations of micro-CT is discussed, in addition to some information about micro-CT of soft tissue.

Keywords : Micro-CT, hard tissue, bone, attenuation coefficient, rapid prototyping

Conference Title : ICBBE 2020 : International Conference on Bioengineering and Biomedical Engineering

Conference Location : Toronto, Canada

Conference Dates : September 21-22, 2020