Temporal Resolution

Both Alexa DSCT data and 64 are temporal resolutions

In general, DSCT has a temporal resolution of 210 ms per gantry rotation. This means that the image acquisition time for each gantry rotation is 210 ms. For a 160-scan DSCT system, the total acquisition time for each scan is 160 × 210 ms = 33600 ms (or 33.6 s).

Radiation Dose

When compared to a single-source CT scanner, DSCT provides a significant reduction in radiation dose. This is because DSCT uses dual X-ray sources, allowing for a reduction in the radiation dose used for image reconstruction.

Dose Reduction Strategies

Heart Rate Dependent Pitch Value

In general, DSCT can achieve a temporal resolution of up to 210 ms at all heart rates. However, the optimal pitch value for DSCT may vary depending on the heart rate.

Cardiac Image Quality

Cardiac image quality is generally excellent, with a 210 ms temporal resolution. This is due to the use of dual X-ray sources, which provide a significant reduction in radiation dose.

Future Applications

Dual-source CT can be used for a variety of applications, including cardiac imaging, oncology, and trauma. It can also be used for post-processing and image analysis.