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Pulse code modulation (PCM) and Sigma-Delta modulation (S-D) are two important nonlinear quantization methods with a host of applications, e.g., compact disc technology. We prove error estimates establishing the superiority of first-order S-D over PCM in the one-bit case. Our context is that of finite unit norm tight frames for real finite dimensional Hilbert spaces. The extension to the complex case is routine. The elementary geometrical interpretation in the one-bit case gives rise to more interesting geometrical configurations in multi-bit settings. (Received September 13, 2006)