

Gauss小波变换像空间的描述

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摘要 在连续小波变换像空间是再生核Hilbert空间的基础上, 针对经常用于边界检测并且使用效果非常好的Gauss小波, 给出了其小波变换像空间的再生核具体表达式. 并且当固定尺度因子和固定平移因子时, 利用再生核空间理论, 对Gauss小波变换像空间做了具体描述, 分别给出了Gauss小波变换像空间中的等距恒等式和反演公式, 这为进一步研究一般的小波变换像空间提供了理论基础.

关键词 [小波变换](#) [再生核](#) [Gauss小波](#)

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Characterization of Image Space of Gauss Wavelet Transform

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Abstract For the Gauss wavelet which is often used in edge detection and is of a good performance, the expression of the reproducing kernel function of image space of Gauss wavelet transform is shown on the bases of the image space of the continuous wavelet transform being a reproducing kernel Hilbert space. And when scale factor and translation factor are fixed, a concrete characterization of image space of Gauss wavelet transform is given by the theory of reproducing kernel function, and the isometric identities and the inversion formulas are obtained respectively, which provides a theoretical basis for us to study the theory of image space of the general wavelet transform.

Key words [wavelet transform](#) [reproducing kernel](#) [Gauss wavelet](#)

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