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Solitary Wave and Wavelet

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Abstract: In this paper, it is shown that the homoclinic orbits exist in iterated functional systems, so do the solitary wave structures. Moreover, Harr father wavelet, Mexican Cap wavelet, and other closed form wavelets have this solitary wave structure, too. So wavelet is a certain kind of solitary wave.

PACS: 02.90.+p, Key words: solitary waves, wavelet, homoclinic orbit, wavelet transform

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